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RESERVE FUND STUDY UPDATE WITH SITE VISIT

Ottawa Carleton Standard Condominium Corporation No. 1106

FILE # 1240545
2025-05-07

PROTECTING PEOPLE'S BUILDINGS

Executive Summary

Site inspections and component inventory were performed on October 15, 2024, October 16, 2024, and October 17, 2024 by

- Steve Christison P. Eng. of Keller Engineering
- Miguel Piano P.Eng. of Keller Engineering
- Ian Charles Wilton P.Eng. of Rooney Irving & Associates

Based on our site inspection and the current financial state of the Corporation, we recommend the following work be completed within the next 5 years:

Within the First Three Years of the Study

- NO_2 Sensors – Replacement Allowance

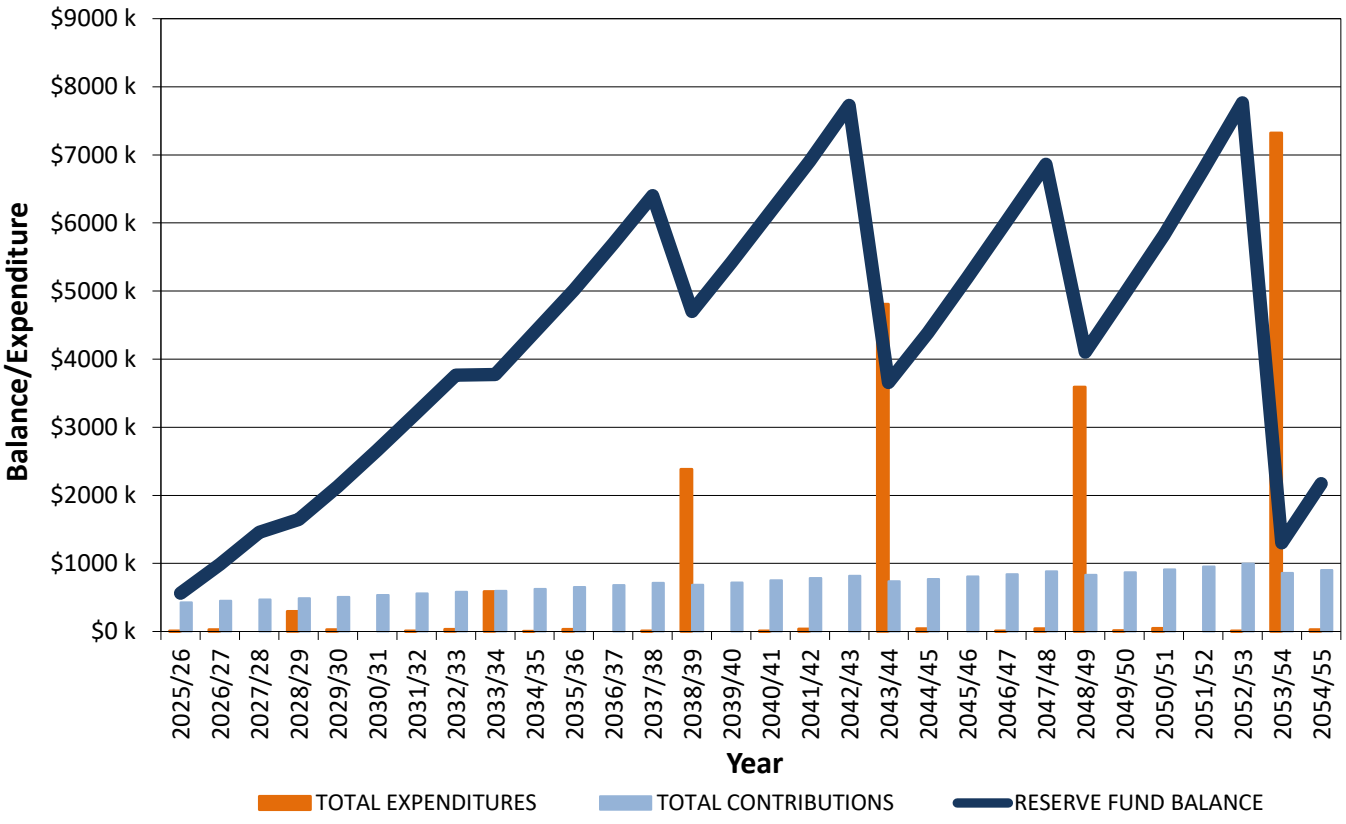
Within the First Five Years of the Study

- Water Mains and Supply Lines Minor Repairs / Investigation
- Sanitary Sewers Minor Repairs / Investigation
- Storm Sewers Minor Repairs / Investigation
- Landscaped Planters Replacement
- 2nd Floor Terrace Furniture Replacement and Renewal
- Intermediate Slab Traffic Bearing Membrane Localized Repairs
- Glass Localized Replacement
- Interior Unit Doors Isolated Replacement
- Chemical Systems Isolated Replacement Allowance
- Hydronic Piping Repairs Allowance
- Building Control Systems Updates & Overhaul Allowance
- CO Gas Sensors Replacement Allowance
- CO Sensors Replacement Allowance
- Plumbing Repair Allowance
- Sump Pumps Replacement Allowance
- Exit Signage Isolated Replacement Allowance
- Isolated Replacement of Light Fixtures Allowance
- Fire Extinguishers Isolated Replacement Allowance
- Fire Alarm Sensors Replacement Allowance
- Security Cameras Replacement Allowance
- TSSA Contingency Allowance
- Garbage Chute Repair Allowance
- Garbage Hydraulic Compactor Overhaul or Replacement Allowance

The following funding plan has been recommended to the Corporation to ensure the Reserve Fund remains *adequate* for the entire 30-year period of this study. It is based on the provided financial information as well as the below assumptions of economic growth and inflation.

	2026/27	2027/28	2028/29	2029/30	2030/31
Yearly Contribution	$430,500	$441,263	$452,294	$463,601	$475,191
Monthly Contribution	$35,875	$36,772	$37,691	$38,633	$39,599
Avg. Unit Yearly Contribution	$1,618	$1,659	$1,700	$1,743	$1,786
Avg. Unit Monthly Contribution	$135	$138	$142	$145	$149
Percent Increase to Yearly Contribution	2.50%	2.50%	2.50%	2.50%	2.50%

Starting Balance	$141,634	Current Yearly Contribution	$420,000
Critical Year	2025/26	Critical Year Balance	$562,327
Assumed Inflation Rate	2.50%	Assumed Interest Rate	2.50%



This Reserve Fund Study has been prepared by:

Miguel Plano, P.Eng.

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Description of Property

Ottawa Carleton Standard Condominium Corporation No. 1106 was registered as a Condominium in 2024 and consists of a 27-storey tower containing 266 residential units.

The condominium municipal address is located at 340 Queen St and its grounds extend to Queen St and Lyon St.

Figure 1: Property Boundaries

Description of Common Elements

The residential unit boundaries of the units (Units 1 to 4, Level 2, Units 1 to 8 Level 3, Units to 11 Levels 4 to 25, Units 1 to 6 Levels 26 and 27) are per the following:

- The Horizontal Boundaries are:
  - The lower limit is the upper unfinished surface of the concrete floor slab beneath the Unit;
  - The upper limit is the lower unfinished surface of the concrete slab above the Unit;
- The Vertical Boundaries are:
  - The backside surface of the drywall on the exterior walls of each Unit;
  - In the vicinity of the structural walls and columns, all of which shall not form part of the Unit, the backside surface of the drywall surrounding such walls and columns;
  - In the vicinity of pipe and duct chases, all of which shall not form part of the Unit, the backside surface of the drywall surrounding such chases;
  - In the vicinity of the windows and exterior doors, the unfinished interior surface of the windows and doors in closed position, the inner or Unit side surface of the glass contained therein, and the unfinished interior surface of the window and door frames.

The parking unit boundaries of the units (Units 1 to 77 Level D, Units 1 to 79 Level E) are per the following:

- The Horizontal Boundaries are:
  - The lower limit of the Units is the upper surface of the concrete floor below the Units;
  - The upper limit of the Units is a place parallel to and perpendicularly distant 2.10 metres above the upper surface of the concrete floor below the Units;
- The Vertical Boundaries are:
  - In the vicinity of the concrete walls and columns, all of which shall not form part of the Unit, the Unit side face of the concrete walls and columns;
  - Vertical planes controlled by physical features (i.e. the faces of concrete walls and columns and/or the distances from the said monuments), as illustrated on the Part 1 Sheets 3 and 4 of the description.

The storage unit boundaries of the units (Units 1 to 25 Level C, Units 78 to 203 Level D, Units 80 to 206 Level E) are per the following:

- The Horizontal Boundaries are:
  - The lower limit is the upper surface of the concrete floor below the Unit;
  - The upper limit is a plane parallel to and perpendicularly distant 2.10 metres above the lower surface of the concrete floor below the Units;
- The Vertical Boundaries are:
  - The Unit side surface of the concrete walls and columns;
  - The centerline of the metal screen walls and doors in closed position;
  - Vertical planes controlled by physical features (i.e. the faces of concrete walls and columns and/or the distances from the said monuments), as illustrated on the Part 1 Sheets 3, 4 and 5 of the description.

Items not enclosed within the unit boundaries or meet the conditions of any exemptions are considered part of the common element component inventory. Based on our site inspection and review of the supplied documentation, the common element component inventory of the Corporation consists of the following systems:

- Building Structure
- Building Envelope
- Interior Finishes
- Pool/Spa/Sauna Area
- Mechanical Systems
- Ventilation Systems
- Plumbing Systems
- Electrical System
- Emergency Power System
- Lighting System
- Fire Protection System
- Security System

- Elevator System
- Site Maintenance Equipment

Shared Facilities Agreement

Joint Use Agreement dated February 12, 2024 details that the Corporation shares several elements with neighbouring properties and the costs for the major repairs and replacements of these components are split between the parties. The below details the Corporation percentage of the split in costs for the items that relate to the Reserve Fund Study

Component	OCSCC 1106 (%)	Clarridge Albert (%)	CCC 145 (%)
Shared Access Lane	1/3	1/3	1/3

Joint Use Agreement dated February 12, 2024 details that the Corporation shares several elements with neighbouring properties and the costs for the major repairs and replacements of these components are split between the parties. The current agreement does not clearly identify all shared elements between the parties. The following is our interpretation of the agreement.

Component	OCSCC 1106 (%)	Clarridge Albert (%)
2nd Floor Terrace Finishes and Furniture	50	50
Levels P1 through P3 Garage Drive Lane	50	50
Garage Door	50	50
Garage Gas Monitor Controller	50	50
Fire System Backflow Preventer	50	50
Fire Pump	50	50

References

The following documentation was supplied by representatives from the Corporation:

- Declaration; dated 2024.01.31
- Shared Facilities Agreement; dated 2024.02.01; City of Ottawa
- Condominium Agreement; dated 2022.11.11; City of Ottawa
- Consultant Reports
  - Elevator Performance Audit; dated October 2024; Rooney Irving & Associates
- Drawings
  - Z20006_Moon-Fianl Plans; Architectural; 004A,005-007,100A-127A, 200-201, 205-206, 210-211, 215-216; dated 2024.04.04; Lessard Group Inc.
  - Moon Tower BC_Record Drawings_ss; Architectural; A196; dated 2019.03.14; Neuf Architect(e)s
  - Moon Tower BC_Record Drawings_ss; Architectural; A328; dated 2021.02.19; Neuf Architect(e)s
  - Moon Tower BC_Record Drawings_ss; Architectural; A202; dated February 2019; Neuf Architect(e)s
  - Moon Tower BC_Record Drawings_ss; Architectural; A100a; dated February 2019; Neuf Architect(e)s
  - Moon Tower BC_Record Drawings_ss; Architectural; A197; dated November 2018; Neuf Architect(e)s
  - A&L STR_GS As-Built; Structural; S01-S07, S01A, S01B, S04A, S06A, S06B, S07(A)-S011(A), S12(C)-S15(C), S16, S17-S20, S17A; dated 2019.02.16; Goodeve Structural Inc.
  - Landscape Plan L1; Landscape; L.1; dated 2019.04.25; James B. Lennox & Associates Inc.
- Technical Documentation
  - Closeout Documents; dated 2024.04.15; Lessard Group Inc.

Frequently Asked Questions:

What is the Purpose of a Reserve Fund Study?

The Reserve Fund Study is a regular undertaking, required by the Condominium Act, and regulated by O.Reg 48/01, to set annual contributions to the Reserve Accounts so as to ensure sufficient funds are available to fund the major repairs and replacement to the common elements of the condominium as they become due.

The Comprehensive Study is provided in 2 sections, the Technical Assessment, where common elements are assessed and evaluated for remaining service life and the Financial Assessment where the priorities of the building and corporations are scheduled and budgeted for planning purposes.

How does Keller approach this?

Keller Engineering has provided Reserve Fund Studies to Condominium Corporations in Ontario since 1986. In our over 3 decades of reporting, we have developed the skills, practice and experience required to assist Corporations in approaching their planning and financing requirements in a manner that takes into account the objectives of the corporation, the realities of common living, and the requirements of the Condominium Act.

Throughout this report, tips are identified for important suggestions or guidance to the corporation that may fall outside the standard provisions of the RFS.

How should you read this report?

The report is separated into building systems and elements. Each section provides a description of the element, and a table summarizing the following information:

Element Type	Location	Quantity	Year Installed	Service Life (Yrs)	Condition	Anticipated Work	Cost ($)	Year	Phases (Yrs)	Cycle (Yrs)
Life Cycle Analysis					Repair / Replacement Forecasting					

Furthermore, each section includes photos of identified defects and recommendations regarding further inspections.

How should you read the spreadsheet?

The spreadsheet, included in Appendix A, is a visual representation of the repair and replacement scheduling along with our recommended plan over the period of the study.

Expenditures are shown per element type as un-inflated present worth values for ease of comparison of the values of the projects. Then, all expenditures within one fiscal year are tabulated so they can be inflated to future worth values for forecasting the future costs at the projected time of the expenditure.

Our recommended contributions to the reserve fund are determined through an iterative process and are provided for the following three fiscal years. For the period following this adjustment period, the contributions are set to increase at the inflation to ensure the reserve fund remains adequate for the entire scope of the study.

The reserve fund balance is evaluated at the end of each fiscal year and is determined by examining the balance at the end of the previous fiscal year, subtracting the future worth expenditure, and adding the forecasted contribution and the estimated interest earned in that fiscal year. At the end of the spreadsheet, the remaining reserve fund is shown in current dollars to provide a better perspective of the fund balance at the end of the study period.

KELLER TIPS

- RFS spreadsheets are a tool to inform your annual budget.
- Corporations must increase the values in this report by inflation if they are using the estimates for individual project budgeting.

How does Keller confirm what elements are included?

The technical assessment process will develop a Component Inventory, which is the list of the common elements and assets of the corporation that will require major repair or replacement of the life off the condominium. This list is developed by several means:

- Review of the Declaration and Survey Plans, that will define the boundaries of the unit.
- Review of available as-built drawings to better understand the elements.
- Review of shared facilities and reciprocal agreements with other condominiums.
- Site evaluation and interviews with stakeholders will identify assets of the corporation, such as gym equipment and furniture, that would not be identified in building plans.

KELLER TIPS

- The condo act requires all common expense over $500 be planned for and funded within the reserve. This value in practice is too low for all but the smallest condominium corporations. This threshold is reviewed and adjusted with the board in this report.

How does Keller establish condition of the elements?

A site inspection is performed during the technical assessment to estimate the general condition of the common elements.

Conditions are evaluated based off multiple factors including age of the element, signs of degradation, signs of premature deterioration, and professional judgement. Furthermore, any non-reserve fund reports that have been provided to Keller regarding condition of an element, such as a roof condition assessment, will be reviewed and considered during the technical assessment.

Conditions are rated as follows:

Good – The element generally exhibits little to no deterioration and is expected to last or exceed its estimated full life cycle, assuming regular maintenance and no change to its general environment.

Satisfactory – The element generally exhibits minor deterioration, in line with its age and is expected to last its estimated full life cycle, assuming regular maintenance and no change to its environment.

Fair – The element is serviceable although there is evidence of collective degradation or deficient operation. Major repairs may be required within the next 5 years.

Poor – the element is either at the end of its life cycle or there is potential for imminent failure. The element may be inoperative or exhibit total failure and immediate repairs or replacement may be required.

Many elements, such as mechanical and electrical equipment components and infrastructure, are largely obstructed from full view or are unassessable during a general reserve fund study site visit as such, the conditions of these elements are heavily weighted towards age relative to overall life expectancy and any information obtained through 3rd party reports.

The condition assessment of the common elements is based upon visual examination only. Neither destructive testing nor performance monitoring are conducted.

KELLER TIPS

- Elements are reviewed on a sampling basis, the scale of which is dependent on the element type and professional judgement.
- Where each boiler may be reviewed, only a representative portion of a brick veneer would be reviewed.
- Reserve Fund Study inspections are not meant to be an exhaustive inspection of every element and cannot be relied upon to have full assessed the condition of any element.

How does Keller establish the type of recommended repair or replacement?

Elements can have multiple repair or replacement options; however, the Reserve Fund plan will focus on the options that, in Keller's opinion, are most appropriate given the age and time to replacement of the elements. Alternative repair or replacement options may be selected in the future that might impact the contribution levels.

Timing of repairs are based on the estimated remaining service life, urgency of the intervention, and funding constraints of the corporation.

Depending on the condition or type of element, repairs or replacement may be envisioned and funded as full projects, such as a roof membrane replacement, or as an allowance whereby a portion of funds are put aside at regular intervals to ensure a portion of the element can be addressed as the needs arise. These allowances are scheduled and funded such that sufficient collective funding is available over the life of the element to ensure a full renewal of all portions, regardless of when then are scheduled.

How does Keller establish the timing of the repair or replacement?

When determining the timing of expenses, several factors are reviewed, and each factor is graded on its importance. The factors include:

i) The risk to the Corporation if there is an imminent failure of the component.
ii) The ability to maintain the component in an effective and usable state.
iii) The Corporation's wishes to update a component.

In most cases, expenses for each common element have been budgeted for the specific fiscal year in which the repair or replacement will likely be required. If possible, repair or replacement of the common elements will usually be performed throughout the corporation for one year rather than spreading the repairs out over a few years as this is generally the most cost-effective solution. For cases where repair or replacement of a building component is not required throughout the corporation at the same time, it may be more cost effective to phase the work over two or more years. Phasing the work may also be necessary due to a lack of funds.

KELLER TIPS

- Judging priorities is not always easy. Many owners want a lobby refurbishment. Most owners want potholes repairs. All owners always want hot water.

KELLER TIPS

- Life expectancy projections for the common elements assume that the corporation will provide satisfactory and timely periodic maintenance. The study does not make allowances for the effects of rare events such as flood, fire, lightning, explosions, earthquakes etc.

How does Keller establish the price of the repair or replacement?

The procedures for determining repair/replacement costs of the common elements involve site inspections, quantity take-offs from drawings, cost estimations, and a spreadsheet layout which are described in detail in this report.

Once the type and quantity of repair or replacement work are known, the costs associated with such work are estimated. Keller Engineering has developed an extensive listing of unit costs for a wide variety of repair and replacement work involving all civil, structural, architectural, and electrical elements that are typically included in Reserve Fund Studies. This listing was compiled using prices obtained from repair and replacement contracts in which Keller Engineering has been involved, cost estimates provided by manufacturers, suppliers and contractors, and published pricing data.

For unique repair or replacement items, advice is generally obtained from a contractor with experience in the work of concern. In such cases, the contractor examines the work and prepares an estimate for our use in the Reserve Fund Study.

Unless requested by the Board, all costs assume that the Contractor performing the work will have full access to the work site for the entire duration of the project and no special considerations have been provided to allow continual use or access of the work area by the unit owners.

Replacement costs are typically based on like-for-like with a similar asset unless code or other circumstances require the replacement cost to include an upgrade.

Estimates of costs are Class D estimate intended for planning purposes and not for accounting or tender use. Estimates assumed economies of scale will be achieved by bundling of work tasks where appropriate. These estimates include some reasonable allowance for site specific access requirements, where assessable and appropriate, but do not account for environmental concerns, which should be evaluated on a project specific basis.

Costs are subject to other variances in the market. Costs may vary depending on time of year, contractor availability and other factors.

KELLER TIPS

- Estimates must be updated over time, further developed for scope of work, and confirmed by competitive pricing. Detailed repair specifications are often required confirm scopes of work and costs.
- Allowances for soft costs, such as consulting services and contingency allowances are included in the budget estimates.

How far into the future does the plan project?

The Condominium Act requires a funding plan that incorporates all major repairs and replacements required to the common elements over 30 years. Keller Engineering projects expenses for a timeframe 15-years beyond the 30-year plan. Financial plans will be presented that will meet the necessary funding requirements of both the 30-year plan and the period 15-years beyond. It is common that a financial plan that only meets the 30-year period will not be sufficient to prevent a deficit occurring in the 15-years beyond the scope of the study. The Board of Directors may elect to proceed with a funding plan which exhibits a deficit beyond the 30-year plan with the knowledge that a significant increase to the contributions may be required upon time of the next Reserve Fund Study

What inflation rate is used?

A 30-year annual inflation rate of **2.5%** has been used in this report. This rate is based on annually published data by Statistics Canada relating to the construction price index for residential buildings in the local region.

While the increase in construction costs will fluctuate from year to year, an annual rate of **2.5%** will likely provide a reasonable representation of how prices will increase over the scope of the study.

What interest rate is used?

For this Reserve Fund Study, a 30-year **2.5%** interest rate was assumed in calculating the annual contributions from interest earned on the reserve fund balance.

While actual inflation and interest rates may differ from those assumed for this report, the above rates, in combination, should be representative over the next few years.

What is an adequately funded Reserve?

The Condominium Act requires that the balance of the reserve fund be adequate to fund the future costs of the major repairs and replacements, without provide an indication of what adequate means.

The most accepted interpretation of adequate funding is that annual contributions remain constant and increasing only by inflation and that no planned special assessments are necessary.

KELLER TIPS

- Keller's position is that all increases to contributions must be completed within 3 years following the study and must be planned to only increase by inflation thereafter.

Is there a minimum fund balance that the plan should not go below?

An adequately funded reserve fund will maintain a reasonable minimum balance throughout the study. This year in which the minimum balance occurs is the Critical Year. This value of this minimum balance is developed in conjunction with the board of directors and based on the size of the building, the timing of the critical year, and the quantity of work forecasted in the near-term.

For the this report a minimum balance of $500,000 was used.

How does Keller determine future funding requirements?

The purpose of the spreadsheet is to determine the annual reserve fund contributions required to ensure that there will be sufficient funds to pay for all foreseeable expenditures over the period of the study. To determine the total expenditures to be incurred in each fiscal year, the projected expenditures are entered into the spreadsheet, summed, and adjusted for yearly construction cost increases.

Trial values for the annual reserve fund contributions are entered into the spreadsheet and through an iterative process the most appropriate annual contributions are determined and used to establish the 30-year funding plan. The iterations account for annual expenditures, annual contributions from owners' monthly fees as well as contributions from investment interest earned on the unused balance of the reserve fund.

The most appropriate contribution ensures that sufficient funds are accumulated in the reserve fund to cover all anticipated expenditures as they come due while leaving a surplus at the end of the study period. The size of the surplus depends greatly on the individual condominium and on the expenses that are to be incurred beyond the study period. Condominiums which are expected to incur large expenditures shortly beyond the study period should have a large surplus.

KELLER TIPS

- Provided the Critical Year falls outside the 30-year funding interval, a secondary iteration may be useful to identify theoretical funding adjustments made by in future reserve fund studies.

What is the Notice of Future Funding?

Within 120 days of receiving the final reserve fund study, it is the responsibility of the Board of Directors in consort with the Corporation’s property management and financial advisors, to review the Reserve Fund Study and propose a plan for future funding of the reserve fund which the Board determines will ensure that the fund will be adequate for the purpose for which it was established.

Within 15 days of proposing a plan, the Corporation must issue a notice containing a summary of the study, a summary of the proposed plan and a statement indicating the areas, if any, in which the proposed plan differs from the study. The form of this notice can be found through the Condominium Authority of Ontario.

Appendix D contains a completed Notice of Future Funding form based on the finalize version of this report.

What about upcoming changes to the Condominium Act?

Keller Engineering is current on the imminent changes to the Condominium Act and where appropriate we have adjusted the methodology to incorporate those changes.

1 Site Services & Infrastructure

1.1 Water and Wastewater Infrastructure

Description

The underground services which include sanitary and storm water piping systems, water mains, and supply lines are situated beneath the condominium complex.

KELLER TIPS

- Camera inspections and sewer cleaning should be performed every 5 and 10 years respectively to ensure proper operation of these systems.

Element Type	Location	Quantity	Year Installed	Service Life (Yrs)	Condition	Anticipated Work	Cost ($)	Year	Phases (Yrs)	Cycle (Yrs)
Life Cycle Analysis					Repair / Replacement Forecasting					
Water Mains and Supply Lines	Throughout	Allowance	2024	40-50		Major Repairs	50,000	Beyond 30 years	1	40
Sanitary Sewers	Throughout	Allowance	2024	40-50		Major Repairs	Included[1]	Beyond 30 years	1	40
Storm Sewers	Throughout	Allowance	2024	40-50		Major Repairs	Included[1]	Beyond 30 years	1	40
Water Mains and Supply Lines	Throughout	Allowance	2024	40-50		Minor Repairs / Investigation	5,000	2028/29	1	5
Sanitary Sewers	Throughout	Allowance	2024	40-50		Minor Repairs / Investigation	Included[2]	2028/29	1	5
Storm Sewers	Throughout	Allowance	2024	40-50		Minor Repairs / Investigation	Included[2]	2028/29	1	5

[1] Repairs have been included in the Water Main and Supply Lines Major Repair allowance
[2] Repairs have been included in the Water Main and Supply Lines Minor Repair allowance

2 Site Features

2.1 Pavements

Description

The walkways consist of interlocking brick pavers in front of the building and concrete sidewalk at the shared walkway.

General Notes

Ownership of the Paver Walkway is shared by the Corporation with Claridge Albert and CCC 145.

Element Type	Location	Quantity	Year Installed	Service Life (Yrs)	Condition	Anticipated Work	Cost ($)	Year	Phases (Yrs)	Cycle (Yrs)
Life Cycle Analysis					Repair / Replacement Forecasting					
Pavers Walkways	Main Entrance	45 m^2	2024	40-50		Replacement	15,000	2043/44	1	20
Pavers Walkways	Main Entrance	Allowance	2024	40-50		Resetting and Repairs	Operating Budget	As-needed	-	-
Concrete Sidewalk (Shared)	Shared Walkway	110 m^2	2024	40-50		Repairs	5,000[3]	2033/34	1	10

General View of Shared Walkway.

[3] Represents OCSCC 1106's portion of any repairs

2.2 Landscaping

Description

Landscape curbing consist of concrete or precast concrete or natural stone edging located at the edge of the garden beds.

Planters consist of outdoor planter boxes containing different types of flowers.

General Notes

Ownership of the 2nd floor terrace is shared by the Corporation with Claridge Albert.

Element Type	Location	Quantity	Year Installed	Service Life (Yrs)	Condition	Anticipated Work	Cost ($)	Year	Phases (Yrs)	Cycle (Yrs)
Life Cycle Analysis					Repair / Replacement Forecasting					
Landscaped Planters	Throughout	Allowance	2024	Varies		Replacement	7,000	2028/29	1	5
2nd Floor Terrace Pavers	2nd Floor Between Towers	435m^2	2024	30-40		Replacement	62,500[4]	2053/54[5]	1	30
2nd Floor Terrace Furniture	2nd Floor Between Towers	Allowance	2024	Varies		Replacement and Renewal	5,000[6]	2028/29	1	5

[4] Replacement of the terrace pavers is estimated to cost $125,000. OCSCC 1106 is responsible for 50% of the cost.
[5] Work has been scheduled with the terrace roof replacement performed by Clarridge Albert
[6] Represents OCSCC 1106's portion of any work

3 Building Structure

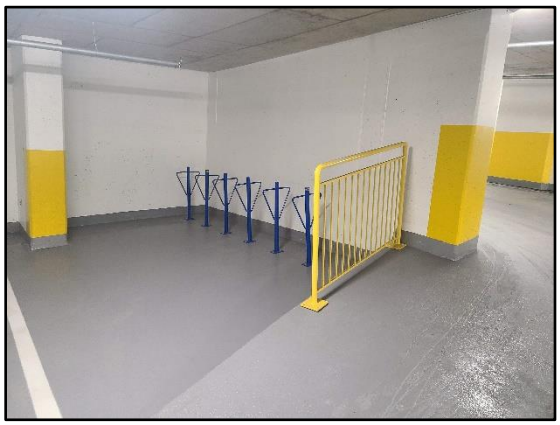
3.1 Structure

Description

The cast-in-place concrete foundation walls support the condominium building.

Superstructure is the above grade portion of the building, including columns, beams, slabs, and walls.

Element Type	Location	Quantity	Year Installed	Service Life (Yrs)	Condition	Anticipated Work	Cost ($)	Year	Phases (Yrs)	Cycle (Yrs)
Life Cycle Analysis					Repair / Replacement Forecasting					
Foundation Walls	Throughout	Allowance	2024	Lifetime		Repairs	Included[7]	2043/44	1	20
Concrete Slabs, Shear Walls & Columns	Throughout	Allowance	2024	Lifetime		Major Repairs	Included[8]	Beyond 30 years	Varies	Varies
Steel Studs	Throughout	Allowance	2024	Lifetime		Major Repairs	Included[9]	Beyond 30 years	Varies	Varies



View of foundation wall on parking garage Level P4.

View of chipped paint on foundation wall on parking garage level P5.

[7] Included in the applicable parking garage repairs
[8] Included in the applicable building envelope repairs
[9] Included in the applicable building envelope repairs

3.2 Parking Garage

Description

The parking garage structure is constructed of reinforced concrete slabs and columns. Slabs are a type of floor system that transfers loads from a steel structure above the slab to walls and columns below.

The intermediate suspended slab in the parking structure are protected with an elastomeric traffic bearing membrane.

A concrete slab-on-grade has been installed at the lowest level of the parking garage.

Concrete ramps provide access to the parking garage.

General Notes

Ownership of the underground parking garage is shared by Claridge Moon with Claridge Albert. Claridge Moon is fully financially responsible for parking garage levels P4 & P5 and the responsibility for the entire parking garage is split between both owners under the Shared Facilities Agreement.

Recommended Inspection:

- Garage Survey (prior to Significant concrete repairs are generally required in concrete parking structures after the structure has obtained 30-years of service; therefore, we recommend a survey of the structure be performed prior to any significant repairs to determine the scope of this project.

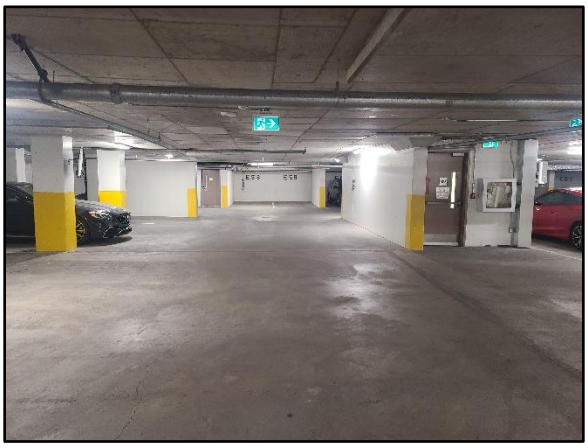
KELLER TIPS

- Generally minor concrete repairs will be required upon replacement of the membrane.

Element Type	Location	Quantity	Year Installed	Service Life (Yrs)	Condition	Anticipated Work	Cost ($)	Year	Phases (Yrs)	Cycle (Yrs)
Life Cycle Analysis					Repair / Replacement Forecasting					
Slabs, Walls, Columns	Level P4	Allowance	2024	Lifetime		General Repairs	Included[10]	-	-	-
Intermediate Slab Traffic Bearing Membrane	Level P4	2450 m^2	2024	15-20		Replacement	650,000	2043/44	1	20
Intermediate Slab Traffic Bearing Membrane – Share Drive Lane	Level P1 – P3	3,600m^2	2024	15-20		Replacement	450,000[11]	2043/44	1	20
Intermediate Slab Traffic Bearing Membrane	Throughout	Allowance	2024	-	-	Localized Repairs	50,000	2028/29	1	5[12]

[10] Concrete repairs have been included within the budgets for waterproofing membrane replacement
[11] Total replacement of the shared drive lane traffic bearing membrane is estimated to cost $900,000. OCSCC 1106 is responsible for 50% of this work
[12] Excludes years for full replacement

Element Type	Location	Quantity	Year Installed	Service Life (Yrs)	Condition	Anticipated Work	Cost ($)	Year	Phases (Yrs)	Cycle (Yrs)
Life Cycle Analysis					Repair / Replacement Forecasting					
Concrete Slab-On-Grade & On-Grade Columns & Walls	Level P5	Allowance	2024	50-80		General Repairs	50,000	2033/34	1	10
Painting	Level P4 & P5	Allowance	2024	10-15		General Repairs	100,000	2038/39	1	20



View of parking garage level P5.

View of heated concrete ramp from garage level P5 towards parking garage level P4.

3.3 Balcony System

Description

The balcony structures are constructed of reinforced concrete slabs. The balconies are protected by a waterproofing membrane.

An aluminum frame railing system glass panels has been installed at the terrace and balconies.

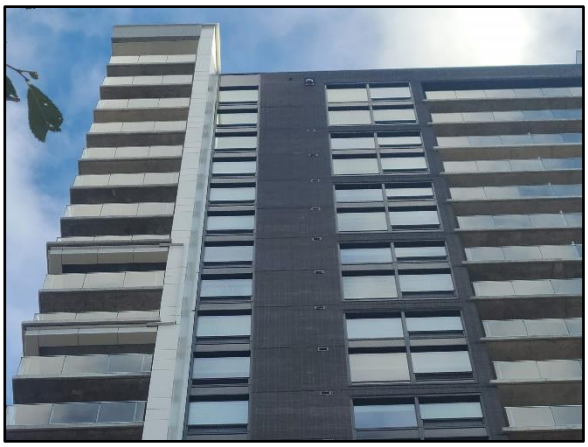
A terrace has been installed at Floor 2. For more information about the terraces, see Section 2.5 Roofing System.

KELLER TIPS

- Significant concrete repairs are generally required in concrete balconies after the structure has obtained 30-years of service.
- Generally, covering the unprotected balcony slabs with carpets is not recommended, as the carpets tend to retain moisture on the balcony slabs which will increase the rate of the slab deterioration.

Element Type	Location	Quantity	Year Installed	Service Life (Yrs)	Condition	Anticipated Work	Cost ($)	Year	Phases (Yrs)	Cycle (Yrs)
Life Cycle Analysis					Repair / Replacement Forecasting					
Balcony Structure Concrete Slabs	Throughout	Allowance	2024	Lifetime		Major Repairs	500,000	2053/54	1	15
Terrace Waterproofing Membrane Modified Bitumen Membrane	Balcony for Units M202 & M203 (Level 2)	20 m^2	2024	15-20		Replacement	10,000	2038/39	1	15
Balcony Railings Aluminum with Glass Panels	Levels 2-27	860 m	2024	30-45		Replacement	335,000	Beyond 30 years	1	45
Balcony Partitions Aluminum with Glass Panels	Levels 2-25	70 m	2024	30-40		Replacement	30,000	2048/49	1	25

View of Balcony Railings on South Elevation above pool room.



General View of Balcony System.

4 Building Envelope

4.1 Masonry

Description

A masonry veneer is installed as the primary cladding of the building.

The exterior walls are constructed of a mass masonry wall system.

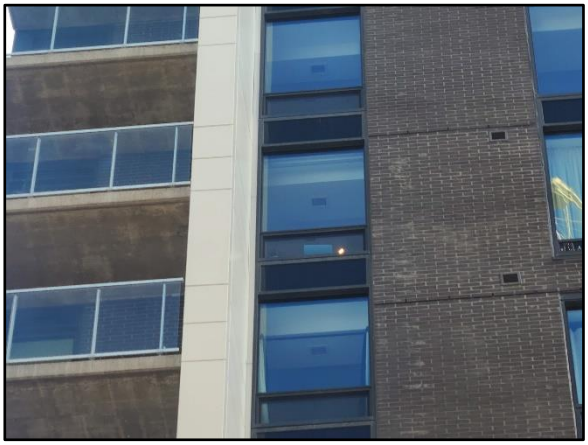
These walls are constructed of multiple wythes of stone or bricks and depending on the location can be infilled with a mixture of stone, brick, gravel, and mortar.

KELLER TIPS

- While the masonry wall will likely last the life of the building, it will require some maintenance throughout its life. Commonly, major repairs to the masonry are needed once it becomes 30-years of age.
- That chalky white stuff on your brick is called efflorescence and it is usually an indication of moisture seepage through the brick. While the efflorescence itself is not harmful, it can be an indicator of other issues with the masonry.

Element Type	Location	Quantity	Year Installed	Service Life (Yrs)	Condition	Anticipated Work	Cost ($)	Year	Phases (Yrs)	Cycle (Yrs)
Life Cycle Analysis					Repair / Replacement Forecasting					
Brick Veneer	Throughout	1210 m^2	2024	Lifetime		General Repairs	300,000	2048/49	1	15

General View of East Elevation.



View of brick veneer on South Elevation.

General View of West Elevation.

View of Blueskin debris on South Elevation.

4.2 Panel & Siding Systems

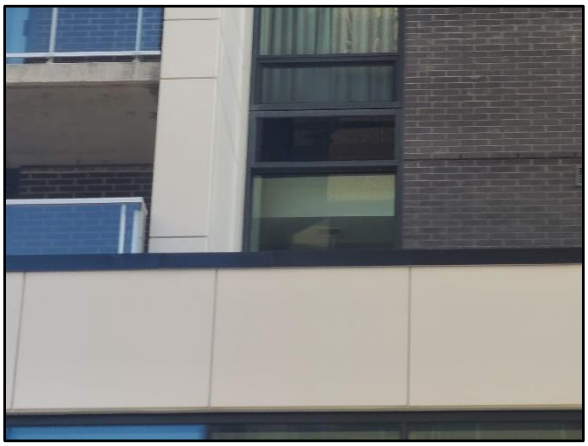
Description

The exterior walls have been cladded with aluminum siding.

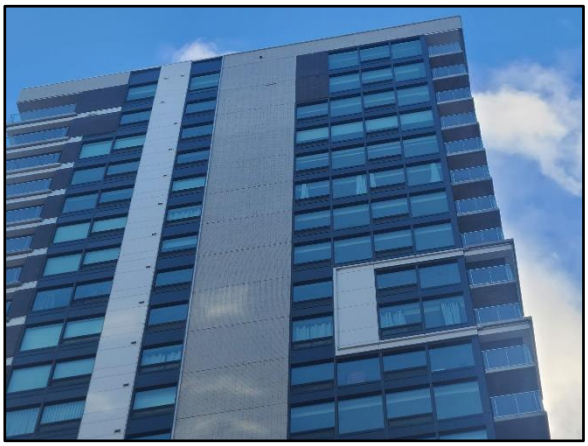
The exterior walls of the penthouse mechanical room have been cladded with vinyl siding.

These walls are constructed of individual weather resistant pieces that are fastened to a back-up wall.

Element Type	Location	Quantity	Year Installed	Service Life (Yrs)	Condition	Anticipated Work	Cost ($)	Year	Phases (Yrs)	Cycle (Yrs)
Life Cycle Analysis					Repair / Replacement Forecasting					
Aluminum Panels	Throughout	4200 m^2	2024	40-50		Replacement	4,205,000	Beyond 30 years	4	40
Aluminium Siding	Penthouse Mechanical Room	70 m^2	2024	30-40		Replacement	40,000	Beyond 30 Years	1	40



View of aluminum panels.



General view of aluminum panels on East Elevation.

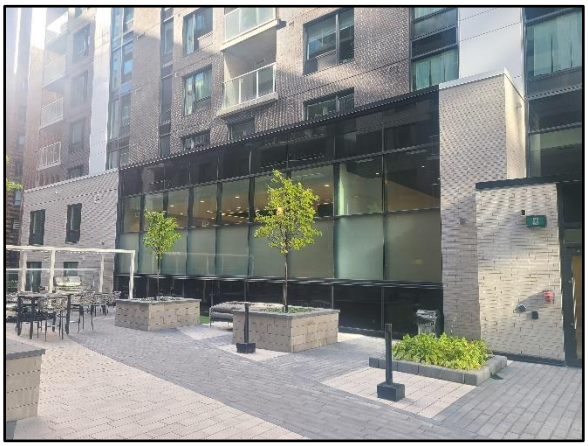
4.3 Curtain Wall

Description

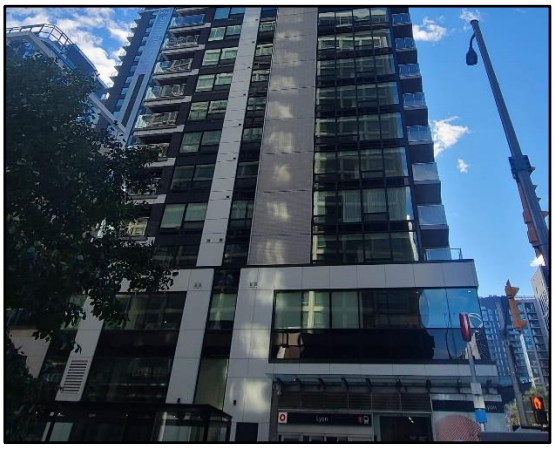
A curtain wall system has been installed.

These walls are constructed of independent frames that carry no structural loads. The frames are infilled with a mixture of vision glass and spandrel panels.

Element Type	Location	Quantity	Year Installed	Service Life (Yrs)	Condition	Anticipated Work	Cost ($)	Year	Phases (Yrs)	Cycle (Yrs)
Life Cycle Analysis					Repair / Replacement Forecasting					
Curtain Wall	Throughout	360 m^2	2024	40-50		Replacement	750,000	Beyond 30 years	4	40
Curtain Wall	Throughout	Allowance	2024	40-50		Localized Glass Replacement	50,000	2033/34	1	5



View of curtain wall on South Elevation, adjacent to shared terrace.



View of East Elevation's curtain wall.

4.4 Fenestration System

Description

The building has a mixture of fixed, casement, and slider windows and sliding and swing balcony doors.

Entry into the building is provided by swing and sliding doors at the main entrance and swing doors at the fire exits.

Vehicle entry into the garage is provided by the tilt-up door and pedestrian traffic through swing doors.

General Notes

Ownership of the parking garage door to Albert Street is shared by Claridge Moon with Claridge Albert

Element Type	Location	Quantity	Year Installed	Service Life (Yrs)	Condition	Anticipated Work	Cost ($)	Year	Phases (Yrs)	Cycle (Yrs)
Life Cycle Analysis					Repair / Replacement Forecasting					
Aluminum Window	Throughout	960 m^2	2024	30-40		Replacement	1,550,000	Beyond 30 years	4	40
Window Wall	Throughout	2800 m^2	2024	30-40		Replacement	5,400,000	Beyond 30 years	4	40
Aluminum Sliding Door	Balcony	102	2024	30-40		Replacement	2,400,000	Beyond 30 years	4	40
Balcony Swing Door	Balcony	142	2024	30-40		Replacement	2,125,000	Beyond 30 years	4	40
Front Entry Door	North Elevation	1	2024	30-40		Replacement	6,000	2053/54	1	30
Garage Vehicle Door	Clarridge Albert	1	2024	15-20		Replacement	20,000	2038/39	1	20
Garage Vehicle Door	Level P4	1	2024	15-20		Replacement	40,000	2038/39	1	20
Glass	Windows and Doors	Allowance	2024	30-40		Localized Replacement	50,000	2028/29	1	5

View of Aluminum Windows and Window Walls.

View of Garage Vehicle door separating parking garage levels P4 & P5.

4.5 Roofing System

Description

An inverted roofing system protects the roof of the building.

Inverted membrane systems consist of the waterproofing membrane being directly applied to the floor system and the insulation is installed over the top of the membrane and is generally secured by ballast.

Eavestroughing and downspouts have been installed at the roof perimeter.

Element Type	Location	Quantity	Year Installed	Service Life (Yrs)	Condition	Anticipated Work	Cost ($)	Year	Phases (Yrs)	Cycle (Yrs)
Life Cycle Analysis					Repair / Replacement Forecasting					
Inverted Hot Rubber	Penthouse Roof	940 m^2	2024	20-30		Replacement	325,000	2053/54	1	30

General View of Penthouse Roof.

General View of Inverted Roof System on Penthouse Mechanical Room Roof.

4.6 Sealants

Description

Exterior sealants have been installed at the joints in the cladding, flashings and around the perimeters of the windows and doors.

KELLER TIPS

- While it may appear easier to apply new sealants over the old, cracked sealants, new sealants will not properly bond to the old sealants, and this can result in failure of the sealant within the first couple years. When replacing sealants, the existing sealant should be fully removed, the joint fully cleaned and only then should new sealant be installed.

Element Type	Location	Quantity	Year Installed	Service Life (Yrs)	Condition	Anticipated Work	Cost ($)	Year	Phases (Yrs)	Cycle (Yrs)
Life Cycle Analysis					Repair / Replacement Forecasting					
Sealants	Throughout	4500 m	2024	10-15		Replacement	250,000	2038/39	1	15

5 Interior Finishes

5.1 Corridors

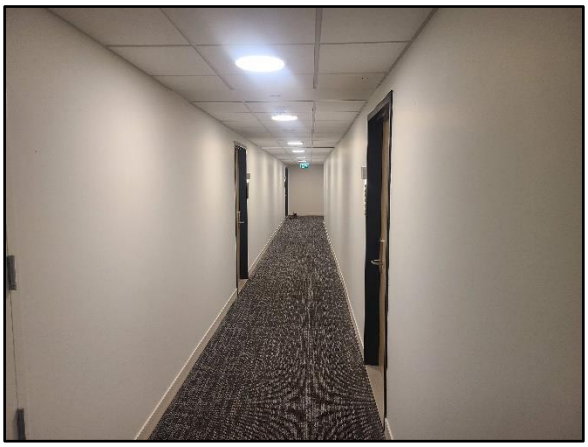
Description

Interior finishes of the common corridors protect the drywalls and structural components of the building. They also enhance the overall aesthetic and create harmonious living spaces.

Element Type	Location	Quantity	Year Installed	Service Life (Yrs)	Condition	Anticipated Work	Cost ($)	Year	Phases (Yrs)	Cycle (Yrs)
Life Cycle Analysis					Repair / Replacement Forecasting					
Wall Finish Painting	Levels 2-27	9650 m^2	2024	15-20		Repainting	215,000	2038/39	1	15
Wall Finish Decorative Wall & Ceiling Panels	Levels 1, 2, 9, 19 & 25-27	26	2024	40-60		Replacement	100,000	Beyond 30 years	1	40
Floor Finish Carpet	Levels 2-11	1300 m^2	2024	15-20		Replacement	165,000	2038/39	1	15
Floor Finish Ceramic tile Flooring	Level 1-27	500 m^2	2024	40-50		Replacement	70,000	Beyond 30 years	1	40
Wall Finish Ceramic Tile Walls	Level 1-27	430 m^2	2024	40-50		Replacement	60,000	Beyond 30 years	1	40
Floor Finish Hardwood Flooring	Level 2	140 m^2	2024	40-50		Refinishing	15,000	2038/39	1	15
Ceiling Finish Acoustical tile	Levels 2, 9, 19 & 25-27	300 m^2	2024	40-50		Replacement	10,000	2033/34	1	10
Ceiling Finish Painted	Levels 1-27	1700 m^2	2024	15-20		Repainting	40,000	2038/39	1	15
Interior Unit Doors	Levels 2-27	269	2024	Vary		Isolated Replacement	25,000	2028/29	1	10
Mechanical & Storage Room Doors	Levels 2-27	85	2024	Vary		Isolated Replacement	10,000	2033/34	1	10

General View of unit corridor with painted ceiling finish on Level 24.

View of decorative wall panels in Elevator Lobby on Level 27.



General View of unit corridor with acoustic ceiling tile finish on Level 27.

View of ceramic wall tiles in Level 1's Elevator Lobby.

5.2 Lobby

Description

The lobby is located at the main entrance of the building and is used for access, circulation, or as a waiting area. An entrance lobby should be adequate to limit air infiltration, maintain comfort by controlling drafts, increase security, provide transitional lighting, and allow wheelchair access.

Element Type	Location	Quantity	Year Installed	Service Life (Yrs)	Condition	Anticipated Work	Cost ($)	Year	Phases (Yrs)	Cycle (Yrs)
Life Cycle Analysis					Repair / Replacement Forecasting					
Wall Finish	Condo Lobby	575 m^2	2024	15-20		Refinishing	20,000	2038/39	1	15
Furniture	Condo Lobby	Allowance	2024	Vary		Replacement	10,000	2038/39	1	15

General View of Condo Lobby on Level 1.

View of wallpaper finish near the main entrance to the Condo Lobby on Level 1.

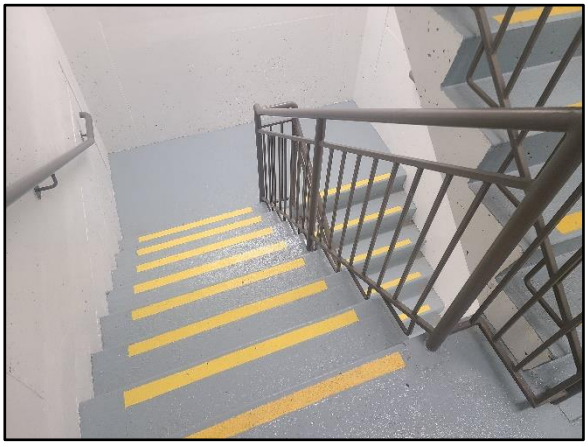
5.3 Stairwells

Description

Stairwells are designed to connect two or more floors through vertical distance.

Element Type	Location	Quantity	Year Installed	Service Life (Yrs)	Condition	Anticipated Work	Cost ($)	Year	Phases (Yrs)	Cycle (Yrs)
Life Cycle Analysis					Repair / Replacement Forecasting					
Wall Finish Painting	Throughout	Allowance	2024	15-20		Replacement	35,000	2038/39	1	15
Doors	Throughout	52	2024	Vary		Isolated Replacement	10,000	2033/34	1	10

View of stairwell door on Level 26.


General View of stairwell on Level 27.

5.4 Common Rooms

Description

Common rooms improve the sense of community in a condominium complex.

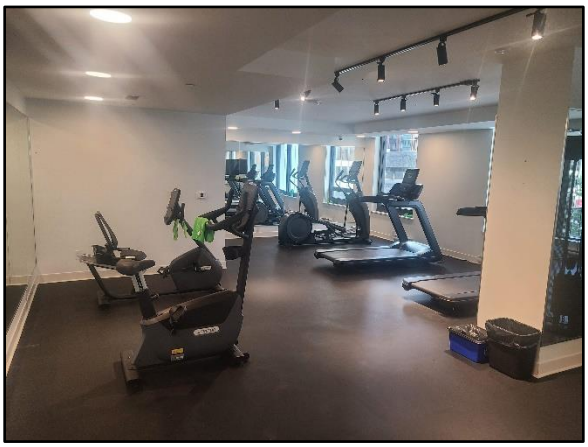
Element Type	Location	Quantity	Year Installed	Service Life (Yrs)	Condition	Anticipated Work	Cost ($)	Year	Phases (Yrs)	Cycle (Yrs)
Life Cycle Analysis					Repair / Replacement Forecasting					
Exercise Room	Level 2	Allowance	2024	Vary		Refinishing	15,000	2048/49	1	25
Theatre Room	Level 2	Allowance	2024	Vary		Refinishing	15,000	2048/49	1	25
Lockers	Levels P4 & P5	Allowance	2024	Vary		Refinishing	Operating Budget	N/A	N/A	N/A
Business Center	Level 2	Allowance	2024	Vary		Refinishing	20,000	2048/49	1	25
Mech/Elect Rooms & Closets	Throughout	Allowance	2024	Vary		Refinishing	Operating Budget	N/A	N/A	N/A
Doors	Throughout	Allowance	2024	Vary		Localized Repairs or Replacement	10,000	2038/39	1	15
Mail Room	Level 1	Allowance	2024	Vary		Refinishing	5,000	2038/39	1	15
Lounge	Level 2	Allowance	2024	Vary		Refinishing	15,000	2038/39	1	15
General Replacement Allowance for Finishing and Furnishing	-	-	-	-	-	-	25,000	2033/34	1	5

View of Lounge on Level 2.

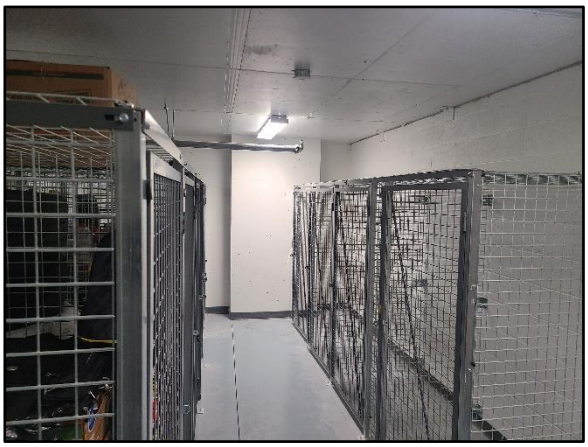
View of Theatre Room on Level 2.

View of Business Center on Level 2.

View of Mail Room on Level 1.



View of Exercise Room on Level 2.



View of Locker Room P511 on Parking Garage Level P5.

6 Pool/Spa/Sauna Area

6.1 Pool

Description

The interior below ground pool is protected by a ceramic tile and waterproofing system.

Element Type	Location	Quantity	Year Installed	Service Life (Yrs)	Condition	Anticipated Work	Cost ($)	Year	Phases (Yrs)	Cycle (Yrs)
Life Cycle Analysis					Repair / Replacement Forecasting					
Pool Waterproofing and Ceramic Tile	East End	100 m^2	2024	20		Replacement	150,000	2043/44	1	20

General View of Pool Room.

View of rusting on pool ladder rails.

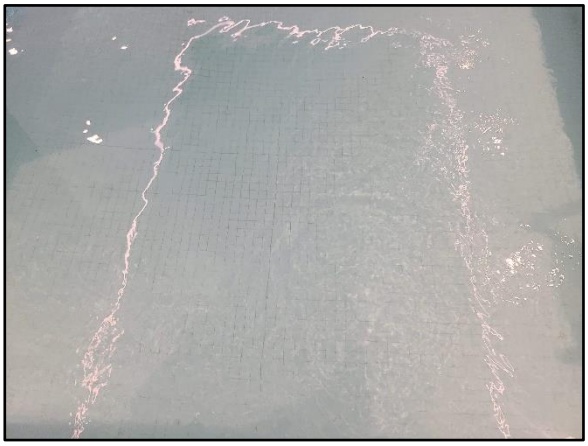
6.2 Finishes

Description

Interior finishes of the pool area protect the structural components of these areas. They also enhance the overall aesthetic and create harmonious living spaces.

Element Type	Location	Quantity	Year Installed	Service Life (Yrs)	Condition	Anticipated Work	Cost ($)	Year	Phases (Yrs)	Cycle (Yrs)
Life Cycle Analysis					Repair / Replacement Forecasting					
Pool Area Finishes	East End	Allowance	2024	30-40		Replacement	150,000	Beyond 30 years	1	40

General view of pool area finishes.



General view of pool finish.

6.3 Pool Mechanical Equipment

Description

The pool water treatment systems consist of chemical equipment, pump, sand filter, and strainer.

The natatorium dehumidifier provides humidity and temperature control to the pool area.

The electric duct heater tempers and boost the temperature of the fresh air brought into the pool area.

The fans provide ventilation and temperature control to the pool area.

The electric pool water heater heats and maintains the pool water temperature.

General Notes

Some of the pool equipment like the pool dehumidifier are in the crawl space surrounding the pool. Access to the crawl space is difficult which will result in high maintenance and replacement costs.

KELLER TIPS

- Maintaining the pool air and water temperature around 29°c with a relative humidity of 50-60% results in a safe environment of the natatorium and reduces energy and water evaporation.

Element Type	Location	Quantity	Year Installed	Service Life (Yrs)	Condition	Anticipated Work	Cost ($)	Year	Phases (Yrs)	Cycle (Yrs)
Life Cycle Analysis					Repair / Replacement Forecasting					
Pump, Sand Filter & Strainer	Pool Mechanical Room	1	2024	10-15		Replacement Allowance	5,000	2033/34	1	10
Chemical Systems	Pool Mechanical Room	1	2024	10-15		Isolated Replacement Allowance	3,000	2028/29	1	5
Natatorium Dehumidifier	Pool Crawl Space	1	2024	20-25		Replacement	140,000	2043/44	1	20
Fans	Pool Crawl Space	2	2024	25-30		Replacement	6,000	2048/49	1	25
Electric Duct Heater 15kW	Pool Crawl Space	1	2024	20-25		Replacement	6,000	2043/44	1	20
Electric Pool Water Heater 30kW	Pool Mechanical Room	1	2024	10-15		Replacement	10,000	2033/34	1	10

Pool pump, sand filter, and strainer.

Pool chemical equipment.

Natatorium Dehumidifier.

Typical pool ventilation fan.

Electric duct heater.

Typical electric pool water heater.

7 Mechanical Systems

7.1 Heating & Cooling Plants

Description

The gas fueled condensing heating boilers provide heated water to the fan coil loop and the hydronic heating loop.

The boiler circulating pumps provide water circulation between the boiler and the main heating loop.

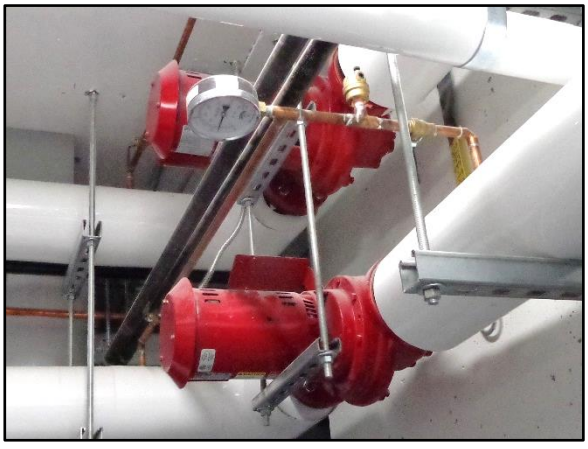
The scroll compressor air cooled chillers provide chilled water to the fan coils in the suites and common areas.

KELLER TIPS

- Following the equipment manufacturer's maintenance requirements and schedule is the best way to ensure the proper operation of the equipment and extend their service life.

Element Type	Location	Quantity	Year Installed	Service Life (Yrs)	Condition	Anticipated Work	Cost ($)	Year	Phases (Yrs)	Cycle (Yrs)
Life Cycle Analysis					Repair / Replacement Forecasting					
Gas Fueled Condensing Boilers 1372 MBH	Mechanical Penthouse	M364		20-25		Replacement	200,000	2043/44	1	20
Boiler Circulator Pumps	Mechanical Penthouse	2	2024	10-15 20-25		Replacement	Included[13]	2043/44	1	20
Scroll Compressor Water Chiller Ton	Rooftop	2	2024	20-25		Replacement	600,000	2043/44	1	20

Gas fueled condensing heating boilers.



Boiler circulator pumps.

[13] Cost for the replacement of the boiler circulator pumps has been included in the boiler replacement project.

Scroll compressor air cooled chillers.

7.2 Hydronic Specialties

Description

The hydronic loop pumps distribute the hot or chilled water throughout the building.

The glycol tank feeder provides glycol make-up.

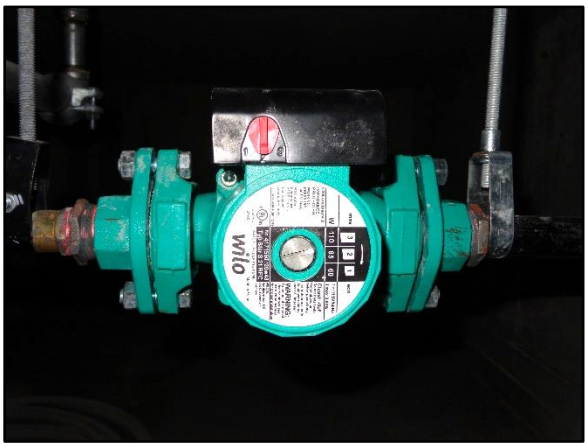
The expansion tanks handle the expansion and contraction of the liquid in a closed loop system.

The plate and frame heat exchangers provide heat transfer between the different fluid loops.

Element Type	Location	Quantity	Year Installed	Service Life (Yrs)	Condition	Anticipated Work	Cost ($)	Year	Phases (Yrs)	Cycle (Yrs)
Life Cycle Analysis					Repair / Replacement Forecasting					
Fan Coil Loop Pumps 510gpm 25HP	Mechanical Penthouse	2	2024	25-30		Replacement	60,000	2048/49	1	25
Base Mounted Glycol Chiller Loop Pumps 735gpm 15HP	Mechanical Penthouse	2	2024	30-35		Replacement	90,000	3053/54	1	30
Snow Melt Circulator Pump	Pool Crawl Space	1	2024	10-15		Replacement	1,000	2033/34	1	10
Glycol Tank Feeder	Mechanical Penthouse	1	2024	30-35		Replacement	4,000	2053/54	1	30
Bladder Expansion Tanks	Mechanical Penthouse	2	2024	40-45		Replacement	40,000	Beyond 30 years	1	40
Expansion Tank Bladder Replacement	Mechanical Penthouse	2	2024	10-15		Replacement	18,000	2033/34	1	10
Plate & Frame Heat Exchanger	Mechanical Penthouse	1	2024	20-25		Replacement	60,000	2043/44	1	20

Hydronic loop pumps.

Glycol base mounted chiller loop pumps.



Snow melt circulator pump.

Glycol tank feeder.

Typical expansion tanks.

Plate and frame heat exchanger.

7.3 Distribution Equipment

Description

The hydronic piping and risers distribute water throughout the building.

The piping insulation reduces energy losses in the hydronic pipes and prevent water condensation on chilled water piping systems.

KELLER TIPS

- The life expectancy of hydronic piping and risers can be significantly reduced with poor system maintenance and water treatment. We recommend that proper maintenance and water treatment be performed regularly.
- Isolation valves must be exercised annually to prevent them from seizing.

Element Type	Location	Quantity	Year Installed	Service Life (Yrs)	Condition	Anticipated Work	Cost ($)	Year	Phases (Yrs)	Cycle (Yrs)
Life Cycle Analysis					Repair / Replacement Forecasting					
Hydronic Piping & Risers	Throughout	-	2024	50-80	14	Replacement Allowance	2,300,000	Beyond 30 years	5	60
Hydronic Piping Repairs	-	-	-	-	-	Repair Allowance	10,000	2028/29	1	5

[14] Suspected condition.

7.4 Terminal Equipment

Description

The terminal equipment consists of hydronic unit heaters and fan coil units.

Hydronic unit heaters provide heating to the areas in which they are installed.

Fan coil units provide heating and air conditioning to the building.

General Notes

The fan coil units located in the individual units, which have an expected service life of 30-35 years, are not a common element and are not included in this study. We recommend that a replacement plan be implemented by the condominium to engineer, coordinate, and possibly fund their replacement. The replacement cost of each an individual unit is estimated to cost between $6,000 and $12,000. Since any repairs or replacement of the fan coil units will affect common elements, it is important that any work performed is supervised and coordinated by the condominium to ensure a quality control and prevent damage to the equipment or the common elements.

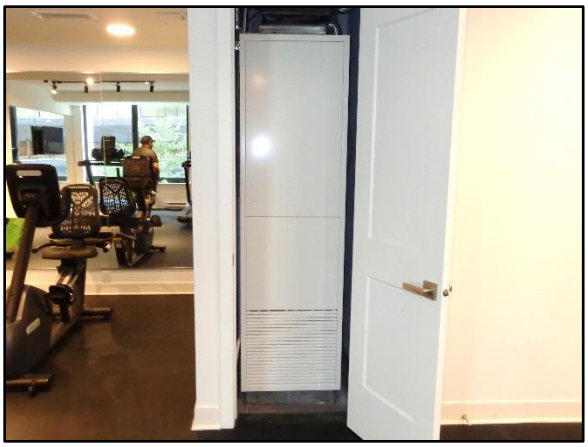
KELLER TIPS

- Condensate drain lines can get obstructed overtime, which is likely to cause water to overflow from the unit's drain pan. To minimize this risk, condensate drain lines should be inspected before the start of the cooling season.

Element Type	Location	Quantity	Year Installed	Service Life (Yrs)	Condition	Anticipated Work	Cost ($)	Year	Phases (Yrs)	Cycle (Yrs)
Life Cycle Analysis					Repair / Replacement Forecasting					
Hydronic Cabinet Unit Heaters	Vestibules, Stairwells	7	2024	40-45		Replacement	35,000	Beyond 30 years	1	40
Hydronic Unit Heaters	Service Rooms, Garage	15	2024	30-35		Replacement	75,000	2053/54	5	30
Fan Coils	Common Areas	5	2024	30-35		Replacement	70,000	2053/54	1	30

Typical hydronic cabinet unit heater.

Typical hydronic unit heater.



Typical common area fan coil unit.

Looby fan coil unit.

7.5 Self-Contained Equipment

Description

The ductless split direct expansion air-conditioner unit provides cooling for the elevator machine room.

The direct expansion multi-head ductless split air source heat pump provides heating & cooling for the garbage and recycling rooms

Baseboard electric heaters provide heating to the areas in which they are installed.

KELLER TIPS

- Condensate drain lines can get obstructed overtime, which is likely to cause water to overflow from the unit's drain pan. To minimize this risk, condensate drain lines should be inspected before the start of the cooling season.

Element Type	Location	Quantity	Year Installed	Service Life (Yrs)	Condition	Anticipated Work	Cost ($)	Year	Phases (Yrs)	Cycle (Yrs)
Life Cycle Analysis					Repair / Replacement Forecasting					
Ductless Split Air Conditioner Unit 3 Ton	Elevator Machine Rm. / Rooftop	1	2024	15-20		Replacement	10,000	2038/39	1	15
Multi Head-Ductless Split Air Source Heat Pump	Garbage Room / Garage	3 Indoor 1 Outdoor	2024	15-20		Replacement	13,000	2038/39	1	15
Baseboard Electric Heaters	2d Floor Common Rooms	-	2024	40-45		Isolated Replacement	Operating Budget	-	-	-

Ductless split air conditioner evaporator.

Ductless split air conditioner condenser.

Typical garbage room air source heat pump indoor unit.

Typical baseboard electric heater.

7.6 Miscellaneous Mechanical Equipment

Description

The building controls system monitors and controls the operation of the HVAC equipment.

Element Type	Location	Quantity	Year Installed	Service Life (Yrs)	Condition	Anticipated Work	Cost ($)	Year	Phases (Yrs)	Cycle (Yrs)
Life Cycle Analysis					Repair / Replacement Forecasting					
Building Control Systems	Throughout	-	2024	15-20		Updates & Overhaul Allowance	10,000	2028/29	1	5

Building control systems.

8 Ventilation Systems

8.1 Building Ventilation Systems

Description

The built gas fueled indirect fire with direct expansion air conditioning make-up air unit (MUA) provides fresh air to the building, pressurizes the building, and prevents the odour transfer between units.

The fans provide ventilation, air exhaust, and temperature control.

Gas monitoring controller monitors the carbon monoxide levels in the penthouse mechanical room to activate the exhaust fan.

The pressurization fans provide fresh air to the stairwells when a fire alarm is triggered.

Recommended Inspection:

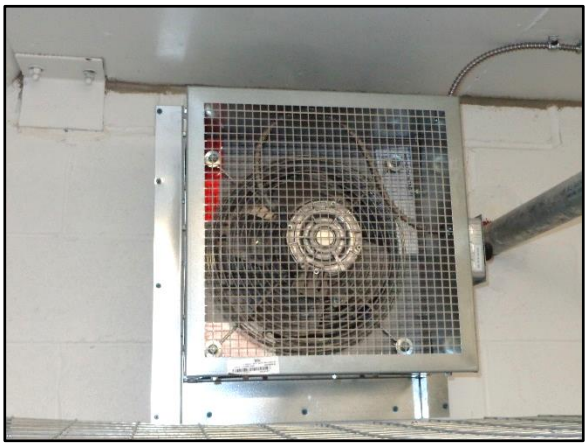
- Gas detection system inspection and calibration every 6-12 months.
  Inspection Overdue.
- Operation and code compliance of the garage ventilation equipment

KELLER TIPS

- Make-up air supply temperature should be kept between 20-22°c in the winter to minimize the energy consumption.

Element Type	Location	Quantity	Year Installed	Service Life (Yrs)	Condition	Anticipated Work	Cost ($)	Year	Phases (Yrs)	Cycle (Yrs)
Life Cycle Analysis					Repair / Replacement Forecasting					
Gas Fueled Make-up Air Unit	Rooftop	1	2024	20-25		Replacement	200,000	2043/44	1	20
Ventilation & Exhaust Fans	Service & Mechanical Rooms	-	2024	30-35		Isolated Replacement Allowance	10,000	2033/34	1	10
CO Gas Monitoring System	Mechanical Penthouse	1	2024	15-20		Replacement	4,000	2038/39	1	15
CO Gas Sensors	Mechanical Penthouse	1	2024	5-7		Replacement Allowance	1,000	2028/29	1	5
Stairwell & Elevator Pressurization Fans	Parkade Stairs	2	2024	40-45		Replacement	12,000	Beyond 30 years	1	40

Gas fueled make-up air unit.



Typical exhaust fan.

Mechanical penthouse stand-alone CO sensor.

Typical garage stairwell pressurization fan.

8.2 Garage Ventilation Systems

Description

The parking garage exhaust fans and motorized dampers provide ventilation for the parking garage.

Gas monitor controller monitors carbon monoxide (CO) and nitrous dioxide (NO_2) sensors controlling the operation of the parking garage ventilation equipment.

General Notes

Ownership of the gas monitor is shared by the Corporation with Claridge Albert.

Recommended Inspection:

- Gas detection system inspection and calibration every 6-12 months.
  Last recorded inspection July 2024.

Element Type	Location	Quantity	Year Installed	Service Life (Yrs)	Condition	Anticipated Work	Cost ($)	Year	Phases (Yrs)	Cycle (Yrs)
Life Cycle Analysis					Repair / Replacement Forecasting					
Exhaust Fans	P4 & P5 Parking Garage	2	2024	30-35		Replacement	24,000	2053/54	1	30
Motorized Dampers	P4 & P5 Parking Garage	2	2024	30-35		Replacement or Overhaul	16,000	2053/54	1	30
Garage Gas Monitor Controller	Claridge Sky P1 Electrical Room	1	2024	15-20		Replacement	6,000[15]	2038/39	1	15
CO Sensors	P4 & P5 Parking Garage	20	2024	5-7		Replacement Allowance	14,000	2028/29	1	5
NO_2 Sensors	P4 & P5 Parking Garage	20	2024	2-3		Replacement Allowance	26,000	2026/27	1	3

[15] Replacement of the gas monitor controller is estimated to cost $12,000. OCSCC 1106 is responsible for 50% of the cost.

Typical parking garage exhaust fan.

Typical parking garage motorized damper.

Gas monitor controller.

Typical CO and NO_2 Sensors.

9 Plumbing Systems

9.1 Plumbing Systems

Description

The plumbing systems consist of domestic hot and cold water pipes and risers and sanitary and storm water pipes and stacks.

The backflow preventer installed in the potable water main prevents water from flowing back into the City's water main to stop the possible cross contamination of the water supply.

The domestic cold water booster pumps increase the incoming water pressure to deliver water to the high-rise section of the building.

The domestic cold water drawdown tank provides temporary water pressure storage to reduce the operation of the booster pumps during low demand periods.

The sump pumps and pump controllers pump and lift waste and storm water from the lower levels of the building to the city sewer.

Recommended Inspection:

- Camera inspection and flushing of the sanitary pipes and stacks should be performed every 5-10 years.
- The City of Ottawa requires the backflow preventers to be the tested yearly. The test must be performed by a qualified technician.

Inspection Overdue.
Last recorded inspection August 2022.

KELLER TIPS

- Sump pumps should be inspected regularly and properly maintained to reduce the risk of premature failure.
- Isolation valves must be exercised annually to prevent them from seizing.

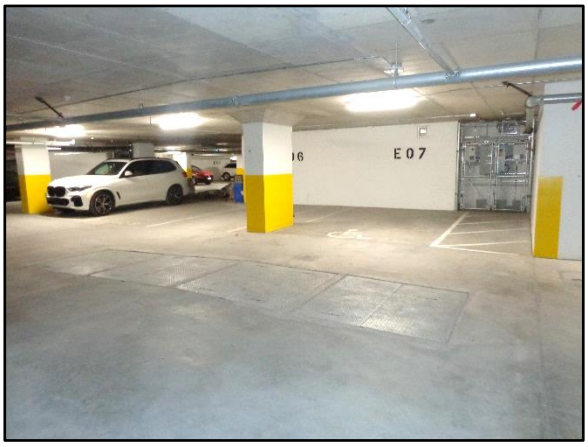
Element Type	Location	Quantity	Year Installed	Service Life (Yrs)	Condition	Anticipated Work	Cost ($)	Year	Phases (Yrs)	Cycle (Yrs)
Life Cycle Analysis					Repair / Replacement Forecasting					
Domestic Cold and Hot Water Pipes	Throughout	-	2024	60-80		Replacement Allowance	2,000,000	Beyond 30 years	5	70
Sanitary and Storm Pipes	Throughout	-	2024	50-60		Replacement Allowance	7,000,000	Beyond 30 years	5	50
Plumbing Repair	-	-	-	-	-	Repair Allowance	10,000	2028/29	1	5
Backflow Preventer	P1 Water Entry Room	1	2024	15-20	[16]	Overhaul or Replacement Allowance	10,000	2038/39	1	15
Domestic Water Booster Pumps	P1 Booster Pump Room	1	2024	20-25		Replacement	120,000	2043/44	1	20
Sump Pumps	Throughout	-	2024	10-15	[17]	Replacement Allowance	10,000	2028/29	1	5

[16] Suspected condition once installation is completed.
[17] Suspected condition.

Domestic water main.

Domestic water backflow preventer.

Domestic water booster pumps.



Typical sump pump pits and pump controllers.

9.2 Domestic Hot Water

Description

The gas fueled condensing semi-instantaneous domestic hot water (DHW) tank heaters provide domestic hot water to the building.

The expansion tank for the domestic water handles the expansion and contraction of the incoming water as warms up.

The thermostatic mixing valves blend hot and cold water to reduce the hot water delivery temperature to 49°c to prevent scalding.

The domestic hot water recirculation pump provides hot water recirculation throughout the building to ensure hot water is always readily available.

General Notes

One of the thermostatic tempering valves is set to deliver hot water at 57°c, which exceeds the maximum temperature of 49°c allowed under the Ontario Building Code, as at this temperature a person could be scalded in 3 seconds.

Recommended Inspection:

- Seasonal calibration and testing of the thermostatic mixing valves.
- Hot water tank sacrificial anode inspection.

KELLER TIPS

- Thermostatic mixing valves must be inspected and calibrated seasonally to ensure they are operating properly.

Element Type	Location	Quantity	Year Installed	Service Life (Yrs)	Condition	Anticipated Work	Cost ($)	Year	Phases (Yrs)	Cycle (Yrs)
Life Cycle Analysis					Repair / Replacement Forecasting					
Condensing Gas Fueled DHW Tank Heaters MBH	Mechanical Penthouse	2	2024	15-20		Replacement	140,000	2038/39	1	15
Diaphragm Expansion Tank	Mechanical Penthouse	1	2024	10-15		Replacement	10,000	2033/34	1	10
Thermostatic Mixing Valves	Mechanical Penthouse	2	2024	10-15		Repair or Replacement	10,000	2033/34	1	10
DHW Recirculation Pump	Mechanical Penthouse	1	2024	10-15		Replacement	8,000	2033/34	1	10

Gas fueled condensing DHW tank heaters.

Domestic water expansion tank.

Thermostatic mixing valves.

DHW recirculation pump.

10 Electrical System

10.1 Main Electrical Service

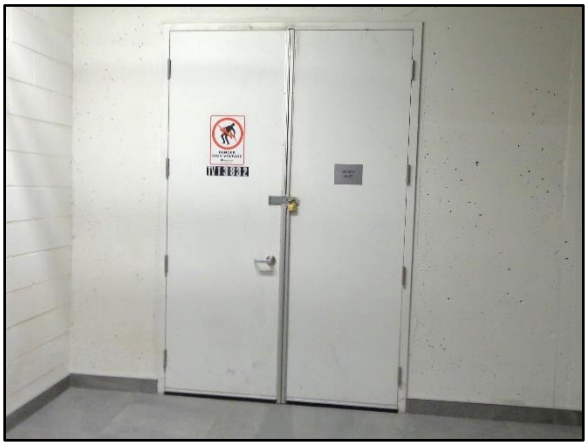
Description

The main hydro equipment consists of primary transformers, load break switches, and breakers located in the main hydro vault accessible from the parking garage. The primary transformers, associated load breaks switches, and main breakers are owned and maintained by Hydro Ottawa.

The main fused disconnect switchgear, located in the P1 electrical room, protects and isolates the main electrical feed into the building.

A secondary switchgear is in the P1 electrical room.

Element Type	Location	Quantity	Year Installed	Service Life (Yrs)	Condition	Anticipated Work	Cost ($)	Year	Phases (Yrs)	Cycle (Yrs)
Life Cycle Analysis					Repair / Replacement Forecasting					
Main Disconnect Switchgear 1600A, 600V	P1 Electrical Room	1	2024	40-45		Replacement	615,000	Beyond 30 years	1	40
Secondary Switchgear 800A, 600V	P1 Electrical Room	1	2024	40-45		Replacement	115,000	Beyond 30 years	1	40



Main hydro vault door.

Main disconnect switchgear.

Secondary switchgear.

10.2 Electrical Distribution Equipment

Description

The distribution breaker panels divide electrical power feed into subsidiary circuits.

Fused disconnect switches provide electrical power and overload protection to individual pieces of equipment.

Dry core transformers change the voltage of the electrical feed.

Recommended Inspection:

- Periodic maintenance, torquing, and infrared thermography of all electrical equipment every 5 years, using funds from the operating budget.

KELLER TIPS

- The electrical room is being used as a storage space and access to panels and switches is being blocked by the stored items. Materials, supplies, and trash left in electrical rooms often block access, are a source for accidents, and pose potential fire hazards. Allowing any objects to be left near electrical panels violates the Ontario Electrical Safety Code and Ontario Fire Code.

Element Type	Location	Quantity	Year Installed	Service Life (Yrs)	Condition	Anticipated Work	Cost ($)	Year	Phases (Yrs)	Cycle (Yrs)
Life Cycle Analysis					Repair / Replacement Forecasting					
120/240V Breaker Panels	Electrical Rooms	11	2024	40-45		Replacement	125,000	Beyond 30 years	5	40
600V Breaker Panels	Electrical Rooms	5	2024	40-45		Replacement	120,000	Beyond 30 years	5	40
Electric Vehicle Distribution Panel	P5 Garage	1	2024	40-45		Replacement	65,000	Beyond 30 years	1	40
Suite Distribution Splitter Panels	Electrical Closets	4	2024	40-45		Replacement	440,000	Beyond 30 years	4	40
Suite Distribution Breaker Panels	Electrical Closets	16	2024	40-45		Replacement	300,000	Beyond 30 years	5	40
Fused Disconnect Switches	Electrical Rooms	8	2024	40-45		Replacement	14,000	Beyond 30 years	2	40
Dry Core Transformers	Throughout Building	14	2024	35-40		Replacement	380,000	Beyond 30 years	5	35

Typical distribution breaker panels.

Typical 600V breaker panel.

Typical suite distribution main splitter panel.

Typical suite distribution breaker panel.

Typical fused disconnect switches.

Typical dry core transformers.

11 Emergency Power System

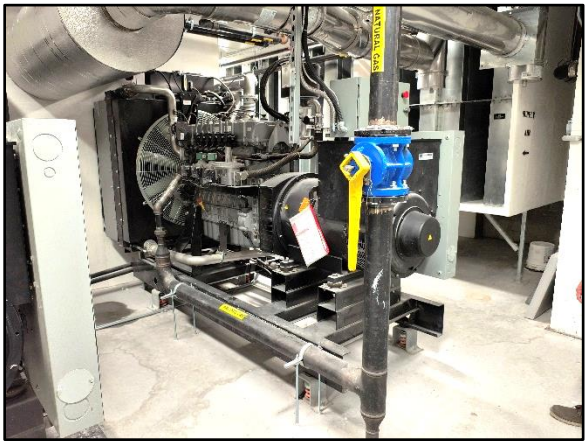
11.1 Generator Equipment

Description

The natural gas fueled emergency power generator provides emergency power to the elevators, emergency lights, and life and safety equipment.

Transfer switches automatically transfer power between the main hydro power and emergency room.

Element Type	Location	Quantity	Year Installed	Service Life (Yrs)	Condition	Anticipated Work	Cost ($)	Year	Phases (Yrs)	Cycle (Yrs)
Life Cycle Analysis					Repair / Replacement Forecasting					
Natural Gas Fueled Generator 600V, 300kW	Claridge Sky 10th Floor Generator Room	1	2024	30-35		Replacement	560,000	2053/54	1	30
Automatic Transfer Switches	P1 Electrical Room	2	2024	30-35		Replacement	62,000	2053/54	1	30



Natural gas fueled emergency power generator.

Automatic transfer switches.

12 Lighting System

12.1 Lighting System

Description

Interior light fixtures in common corridors and common rooms provide lighting to these areas.

The battery packs located throughout the building provide emergency power for emergency lights and exit signs.

Exterior light fixtures, wall mounted, light standards, and poles, provide lighting throughout the exterior common areas of the condominium.

Element Type	Location	Quantity	Year Installed	Service Life (Yrs)	Condition	Anticipated Work	Cost ($)	Year	Phases (Yrs)	Cycle (Yrs)
Life Cycle Analysis					Repair / Replacement Forecasting					
Lobby Light Fixtures	Vestibule, Lobby	-	2024	Varies		Replacement Allowance	5,000	2038/39	1	15
Corridor Light Fixtures	Corridors	-	2024	Varies		Replacement Allowance	80,000	2038/39	1	15
Common Room Light Fixtures	All Common Rooms	-	2024	Varies		Replacement Allowance	10,000	2038/39	1	15
Stairwell Light Fixtures	Throughout	-	2024	Varies		Isolated Replacement	Operating Budget	-	-	-
Emergency Lighting & Battery Packs	Mechanical Penthouse, Electrical Room	-	2024	Varies		Isolated Replacement	Operating Budget	-	-	-
Exit Signage	Throughout	-	2024	Varies		Isolated Replacement Allowance	10,000	2028/29	1	5
Garage Light Fixtures	P4, P5 Parking Garage	-	2024	Varies		Replacement Allowance	25,000	2053/54	1	30
Isolated Replacement of Light Fixtures	Interior	-	-	-	-	Isolated Replacement Allowance	10,000	2028/29	1	5

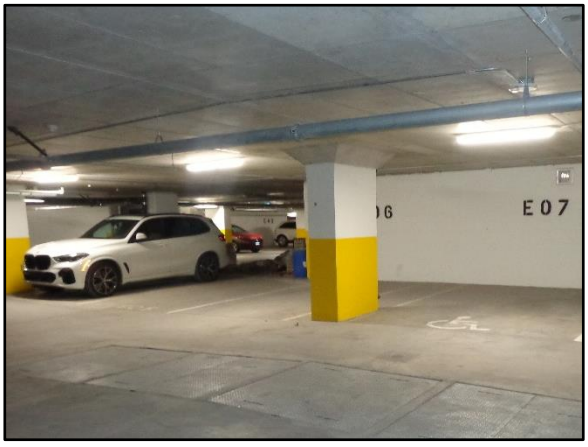
Typical lobby light fixtures.

Typical corridor light fixtures.

Typical stairwell light fixture.

Typical common room light fixtures.

Pool area light fixtures.



Typical garage light fixtures.

13 Fire Protection System

13.1 Fire Suppression System

Description

The fire suppression system consists of fire hose cabinets and fire extinguishers.

The backflow preventer installed in the fire suppression main prevents water from flowing back into the City's water main to stop the possible cross contamination of the water supply.

The sprinkler heads provide fire protection to the building.

Fire pump and pump controllers provide water to the standpipes and fire hose cabinets in the building.

Dry pipe air compressor provides compressed air to maintain air pressure in the dry pipe sprinkler systems.

General Notes

Ownership of the fire protection backflow preventer and fire pump is shared by the Corporation with Claridge Albert.

Recommended Inspection:

- Annual inspection of the fire suppression system.
- The City of Ottawa requires the backflow preventers to be the tested yearly. The test must be performed by a qualified technician.

Element Type	Location	Quantity	Year Installed	Service Life (Yrs)	Condition	Anticipated Work	Cost ($)	Year	Phases (Yrs)	Cycle (Yrs)
Life Cycle Analysis					Repair / Replacement Forecasting					
Fire Extinguishers	Throughout	-	2024	10-15		Isolated Replacement Allowance	3,000	2028/29	1	5
Fire Hoses	Fire Hose Cabinets	-	2024	15-20		Replacement Allowance	25,000	2038/39	1	15
Fire Protection Backflow Preventer	Water Entry Room	1	2024	15-20		Overhaul or Replacement Allowance	10,000[18]	2038/39	1	15
Standpipe Systems	Throughout	-	2024	60-80		Replacement Allowance	350,000	Beyond 30 years	1	80
Sprinkler Pipes	Garage Throughout	-	2024	60-80		Replacement Allowance	1,600,000	Beyond 30 years	1	80
Sprinkler Heads	Garage Throughout	-	2024	50		Replacement Allowance	1,200,000	Beyond 30 years	1	50
Listed Fire Pump Set	Water Entry Room	1	2024	30-35		Replacement	100,000[19]	2053/54	1	30
Dry Pipe Sprinkler Air Compressor	Water Entry Room	1	2024	15-20		Replacement	6,000	2038/39	1	15

[18] Overhaul or replacement of the fire protection backflow preventer is estimated to cost $20,000. OCSCC 1106 is responsible for 50% of the cost.
[19] Replacement of the fire pump is estimated to cost $200,000. OCSCC 1106 is responsible for 50% of the cost.

Typical fire hose cabinet.

Fire suppression backflow preventer.

Fire suppression standpipes.

Typical sprinkler pipe and sprinkler head.

Typical fire pump set.

Dry pipe air compressor..

13.2 Fire Alarm System

Description

The fire alarm system consists of a fire alarm panel, which provides monitoring of the fire alarm sensors.

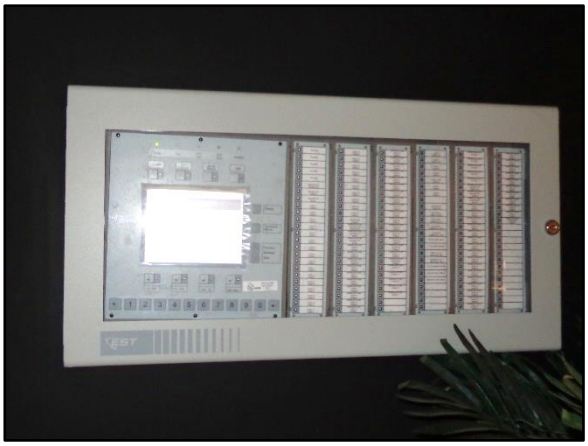
The smoke detectors, heat sensors, pull stations, horns, and strobes provide monitoring for the fire alarm system.

Recommended Inspection:

- Annual inspection of the fire alarm system.

Element Type	Location	Quantity	Year Installed	Service Life (Yrs)	Condition	Anticipated Work	Cost ($)	Year	Phases (Yrs)	Cycle (Yrs)
Life Cycle Analysis						Repair / Replacement Forecasting				
Fire Alarm Panels with Voice Annunciator	Lobby CACF Room	1	2024	25-30		Replacement	100,000	2053/54	1	25
Fire Alarm Remote Annunciator Panel	Vestibule	1	2024	25-30		Replacement	Included[20]	2053/54	1	25
Fire Alarm Booster Panels	7, 15, and 23 Floor Corridor Closets	6	2024	25-30		Replacement	Included[21]	2053/54	1	25
Fire Alarm Wiring	Throughout	-	2024	50-55		Replacement Allowance	380,000	Beyond 30 years	1	50
Fire Alarm Sensors	Throughout	-	2024	Varies		Replacement Allowance	15,000	2028/29	1	5

Fire alarm panel.



Typical fire alarm remote annunciator panel.

[20] Cost for the replacement of the remote annunciator panel has been included in the fire alarm panel replacement.
[21] Cost for the replacement of the fire alarm booster panels has been included in the fire alarm panel replacement.

Typical fire alarm booster panels.

Typical fire alarm pull station.

Typical fire alarm sensor and combination speaker/strobe.

14 Security System

14.1 Security System

Description

The phone-based door entry systems consist of a touch screen to provide visitor access to the building.

Key fob systems consist of a main controller and fob readers.

Element Type	Location	Quantity	Year Installed	Service Life (Yrs)	Condition	Anticipated Work	Cost ($)	Year	Phases (Yrs)	Cycle (Yrs)
Life Cycle Analysis					Repair / Replacement Forecasting					
Phone Based Door Entry System	Main Entrance Vestibule	1	2024	15-20		Replacement	10,000	2038/39	1	15
Key Fob System	Throughout	-	2024	15-20		Replacement	30,000	2038/39	1	15

Phone based door entry system.

Typical key fob reader.

14.2 CCTV System

Description

The closed-circuit television (CCTV) system consists of a digital video recorder (DVR), monitoring station, and cameras to provide surveillance of the building.

Element Type	Location	Quantity	Year Installed	Service Life (Yrs)	Condition	Anticipated Work	Cost ($)	Year	Phases (Yrs)	Cycle (Yrs)
Life Cycle Analysis						Repair / Replacement Forecasting				
DVR & Monitoring Station	Security Room	2	2024	15-20		Replacement	20,000	2038/39	1	15
Security Cameras	Throughout	25	2024	5-10		Replacement Allowance	10,000	2028/29	1	5

DVR and monitoring station.

DVR system.

Remote monitoring station.

Typical security camera.

15 Elevator System

15.1 Passenger Elevators

Description

The traction passenger elevators provide access between floors P5 and 27.

General Notes

The detailed 2024 Elevator Reserve Fund Study and Deficiency Report by Rooney Irving & Associates can be found in Appendix C.

Recommended Inspection:

- Elevator inspection by maintenance contractor to address deficiencies listed in the Reserve Fund Study and Deficiency Report.

Element Type	Location	Quantity	Year Installed	Service Life (Yrs)	Condition	Anticipated Work	Cost ($)	Year	Phases (Yrs)	Cycle (Yrs)
Life Cycle Analysis					Repair / Replacement Forecasting					
Traction Elevator Controls	Penthouse Elevator Machine Room	3	2024	25-30		Modernization	1,144,000	2048/49	1	25
Cab Interiors	Elevator Cabs	3	2024	25-30		Replacement	Included[22]	2048/49	1	25
TSSA Allowance	-	-	-	-	-	Contingency Allowance	7,000	2028/29	1	5

Elevator machine room.

Elevator lobby.

[22] Cost for the replacement of the cab interiors has been included in the elevator control modernization.

15.2 Accessibility Lifts

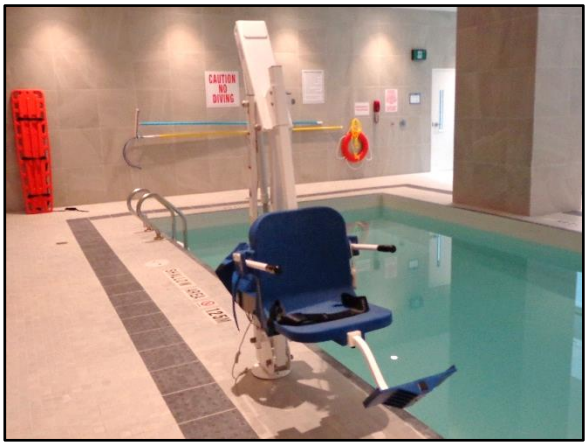
Description

Inclined wheelchair platform provides access to the patio and pool area.

The pool lift provides accessible access to the pool.

Element Type	Location	Quantity	Year Installed	Service Life (Yrs)	Condition	Anticipated Work	Cost ($)	Year	Phases (Yrs)	Cycle (Yrs)
Life Cycle Analysis					Repair / Replacement Forecasting					
Inclined Wheelchair Platform	2nd floor	1	2024	15-20		Replacement	20,000	2038/39	1	15
Pool Lift	Pool	1	2024	15-20		Replacement	10,000	2038/39	1	15

Inclined wheelchair platform.



Pool lift.

16 Site Maintenance Equipment

16.1 Waste Collection Equipment

Description

Garbage chute services all floors for garbage disposal.

The hydraulic garbage compactor compacts the garbage inside the garage bin.

Element Type	Location	Quantity	Year Installed	Service Life (Yrs)	Condition	Anticipated Work	Cost ($)	Year	Phases (Yrs)	Cycle (Yrs)
Life Cycle Analysis					Repair / Replacement Forecasting					
Garbage Chute	East End Center	1	2024	60-80		Replacement Allowance	380,000	Beyond 30 years	1	80
Garbage Chute	-	-	-	-	-	Repair Allowance	10,000	2028/29	1	5
Garbage Hydraulic Compactor	Garbage Room	1	2024	30-35		Overhaul or Replacement Allowance	5,000	2028/29	1	5

Typical garbage chute door.

Garbage compactor.

16.2 Vehicles & Motorized Equipment

Description

The walk behind sweeper is used for maintenance operations in the property.

Element Type	Location	Quantity	Year Mfg.	Service Life (Yrs)	Condition	Anticipated Work	Cost ($)	Year	Phases (Yrs)	Cycle (Yrs)
Life Cycle Analysis					Repair / Replacement Forecasting					
Walk Behind Sweeper	P4 Storage Room	1	2024	10-15		Replacement	6,000	2033/34	1	10

Walk behind sweeper.

APPENDIX A: SPREADSHEET FOR MAJOR REPAIR AND REPLACEMENT COSTS

OCSCC 1106: Spreadsheet For Major Repair & Replacement Costs, Fiscal Years 2025/26 to 2054/55

AGE OF COMPLEX	2 Years	3 Years	4 Years	5 Years	6 Years	7 Years	8 Years	9 Years	10 Years	11 Years
REPAIR/REPLACEMENT ITEMS	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33	2033/34	2034/35
1.0 SITE SERVICES & INFRASTRUCTURE										
1.1 Water and Wastewater Infrastructure				$5,000					$5,000	
2.0 SITE FEATURES										
2.1 Pavements									$5,000	
2.2 Landscaping				$12,000					$12,000	
3.0 BUILDING STRUCTURE										
3.1 Structure										
3.2 Parking Garage				$50,000					$100,000	
3.3 Balcony System										
4.0 BUILDING ENVELOPE										
4.1 Masonry										
4.2 Panel & Siding Systems										
4.3 Curtain Wall									$50,000	
4.4 Fenestration System				$50,000					$50,000	
4.5 Roofing System										
4.6 Sealants										
5.0 INTERIOR FINISHES										
5.1 Corridors				$25,000					$20,000	
5.2 Lobby										
5.3 Stairwells									$10,000	
5.4 Common Rooms									$25,000	
6.0 POOL/SPA/SAUNA AREA										
6.1 Pool										
6.2 Finishes										
6.3 Pool Mechanical Equipment				$3,000					$18,000	
7.0 MECHANICAL SYSTEMS										
7.1 Heating & Cooling Plants										
7.2 Hydronic Specialties									$19,000	
7.3 Distribution Equipment				$10,000					$10,000	
7.4 Terminal Equipment										
7.5 Self-Contained Equipment										
7.6 Miscellaneous Mechanical Equipment				$10,000					$10,000	
8.0 VENTILATION SYSTEMS										
8.1 Building Ventilation Systems				$1,000					$11,000	
8.2 Garage Ventilation Systems		$26,000		$14,000	$26,000			$26,000	$14,000	
9.0 PLUMBING SYSTEMS										
9.1 Plumbing Systems				$20,000					$20,000	
9.2 Domestic Hot Water									$28,000	
10.0 ELECTRICAL SYSTEM										
10.1 Main Electrical Service										
10.2 Electrical Distribution Equipment										
11.0 EMERGENCY POWER SYSTEM										
11.1 Generator Equipment										
12.0 LIGHTING SYSTEM										
12.1 Lighting System				$20,000					$20,000	
13.0 FIRE PROTECTION SYSTEM										
13.1 Fire Suppression System				$3,000					$3,000	
13.2 Fire Alarm System				$15,000					$15,000	
14.0 SECURITY SYSTEM										
14.1 Security System										
14.2 CCTV System				$10,000					$10,000	
15.0 ELEVATOR SYSTEM										
15.1 Passenger Elevators				$7,000					$7,000	
15.2 Accessibility Lifts										
16.0 SITE MAINTENANCE EQUIPMENT										
16.1 Waste Collection Equipment				$15,000					$15,000	
16.2 Vehicles & Motorized Equipment									$6,000	
GENERAL										
Contingencies										
Reserve Fund Study Update	$7,900			$5,500			$8,500			$5,500
YEARLY EXPENDITURE TOTALS	$7,900	$26,000	$0	$275,500	$26,000	$0	$8,500	$26,000	$483,000	$5,500
EXPENDITURES INCL. INFLATION	$7,900	$26,650	$0	$296,683	$28,699	$0	$9,857	$30,906	$588,489	$6,869
CONTRIBUTIONS FROM FEES	$420,000	$430,500	$441,263	$452,294	$463,601	$475,191	$487,071	$499,248	$511,729	$524,522
ADDITIONAL CONTRIBUTIONS										
INTEREST CONTRIBUTIONS	$8,593	$18,773	$30,140	$34,645	$46,243	$59,134	$72,394	$85,760	$85,829	$100,756
REMAINING RESERVE FUND	$562,327	$984,951	$1,456,353	$1,646,609	$2,127,754	$2,662,079	$3,211,687	$3,765,789	$3,774,859	$4,393,269

ESTIMATED RESERVE FUND = $141,634 January 31st, 2025
CURRENT ANNUAL CONTRIBUTIONS = $420,000 February 1st, 2025
FUTURE ANNUAL CONTRIBUTIONS = $430,500 February 1st, 2026

OCSCC 1106: Spreadsheet For Major Repair & Replacement Costs, Fiscal Years 2025/26 to 2054/55

AGE OF COMPLEX	12 Years	13 Years	14 Years	15 Years	16 Years	17 Years	18 Years	19 Years	20 Years	21 Years
REPAIR/REPLACEMENT ITEMS	2035/36	2036/37	2037/38	2038/39	2039/40	2040/41	2041/42	2042/43	2043/44	2044/45
1.0 SITE SERVICES & INFRASTRUCTURE										
1.1 Water and Wastewater Infrastructure				$5,000					$5,000	
2.0 SITE FEATURES										
2.1 Pavements									$20,000	
2.2 Landscaping				$12,000					$12,000	
3.0 BUILDING STRUCTURE										
3.1 Structure										
3.2 Parking Garage				$150,000					$1,200,000	
3.3 Balcony System				$10,000						
4.0 BUILDING ENVELOPE										
4.1 Masonry										
4.2 Panel & Siding Systems										
4.3 Curtain Wall				$110,000					$50,000	
4.4 Fenestration System				$50,000					$50,000	
4.5 Roofing System										
4.6 Sealants				$250,000						
5.0 INTERIOR FINISHES										
5.1 Corridors				$460,000					$20,000	
5.2 Lobby				$30,000						
5.3 Stairwells				$35,000					$10,000	
5.4 Common Rooms				$55,000					$25,000	
6.0 POOL/SPA/SAUNA AREA										
6.1 Pool									$150,000	
6.2 Finishes										
6.3 Pool Mechanical Equipment				$3,000					$164,000	
7.0 MECHANICAL SYSTEMS										
7.1 Heating & Cooling Plants									$800,000	
7.2 Hydronic Specialties									$79,000	
7.3 Distribution Equipment				$10,000					$10,000	
7.4 Terminal Equipment										
7.5 Self-Contained Equipment				$23,000						
7.6 Miscellaneous Mechanical Equipment				$10,000					$10,000	
8.0 VENTILATION SYSTEMS										
8.1 Building Ventilation Systems				$5,000					$211,000	
8.2 Garage Ventilation Systems	$26,000			$46,000			$26,000		$14,000	$26,000
9.0 PLUMBING SYSTEMS										
9.1 Plumbing Systems				$30,000					$140,000	
9.2 Domestic Hot Water				$140,000					$28,000	
10.0 ELECTRICAL SYSTEM										
10.1 Main Electrical Service										
10.2 Electrical Distribution Equipment										
11.0 EMERGENCY POWER SYSTEM										
11.1 Generator Equipment										
12.0 LIGHTING SYSTEM										
12.1 Lighting System				$115,000					$20,000	
13.0 FIRE PROTECTION SYSTEM										
13.1 Fire Suppression System				$44,000					$3,000	
13.2 Fire Alarm System				$15,000					$15,000	
14.0 SECURITY SYSTEM										
14.1 Security System				$40,000						
14.2 CCTV System				$30,000					$10,000	
15.0 ELEVATOR SYSTEM										
15.1 Passenger Elevators				$7,000					$7,000	
15.2 Accessibility Lifts				$30,000						
16.0 SITE MAINTENANCE EQUIPMENT										
16.1 Waste Collection Equipment				$15,000					$15,000	
16.2 Vehicles & Motorized Equipment									$6,000	
GENERAL										
Contingencies										
Reserve Fund Study Update			$8,500			$5,500			$8,500	
YEARLY EXPENDITURE TOTALS	$26,000	$0	$8,500	$1,730,000	$0	$5,500	$26,000	$0	$3,082,500	$26,000
EXPENDITURES INCL. INFLATION	$33,282	$0	$11,432	$2,384,824	$0	$7,966	$38,597	$0	$4,807,648	$41,565
CONTRIBUTIONS FROM FEES	$537,636	$551,076	$564,853	$578,975	$593,449	$608,285	$623,492	$639,080	$655,057	$671,433
ADDITIONAL CONTRIBUTIONS										
INTEREST CONTRIBUTIONS	$115,720	$132,222	$149,191	$107,598	$124,943	$142,889	$160,894	$180,698	$81,201	$98,773
REMAINING RESERVE FUND	$5,013,342	$5,696,641	$6,399,253	$4,701,002	$5,419,394	$6,162,603	$6,908,392	$7,728,170	$3,656,779	$4,385,421

NOTES:

1) Interest contributions for each year are calculated at the midpoint of the fiscal year and assume that all expenditures have occurred and 50% of contributions have been collected. A fixed interest rate of 2.5% is used in the calculation

2) Estimates for expenditures include HST and, where appropriate, engineering fees.

OCSCC 1106: Spreadsheet For Major Repair & Replacement Costs, Fiscal Years 2025/26 to 2054/55

AGE OF COMPLEX	22 Years	23 Years	24 Years	25 Years	26 Years	27 Years	28 Years	29 Years	30 Years	31 Years	
REPAIR/REPLACEMENT ITEMS	2045/46	2046/47	2047/48	2048/49	2049/50	2050/51	2051/52	2052/53	2053/54	2054/55	TOTALS
1.0 SITE SERVICES & INFRASTRUCTURE											
1.1 Water and Wastewater Infrastructure				$5,000					$5,000		$30,000
2.0 SITE FEATURES											
2.1 Pavements									$5,000		$30,000
2.2 Landscaping				$12,000					$74,500		$134,500
3.0 BUILDING STRUCTURE											
3.1 Structure											$0
3.2 Parking Garage				$50,000					$100,000		$1,650,000
3.3 Balcony System				$30,000					$510,000		$550,000
4.0 BUILDING ENVELOPE											
4.1 Masonry				$300,000							$300,000
4.2 Panel & Siding Systems											$0
4.3 Curtain Wall				$50,000					$50,000		$310,000
4.4 Fenestration System				$50,000					$56,000		$306,000
4.5 Roofing System									$325,000		$325,000
4.6 Sealants									$250,000		$500,000
5.0 INTERIOR FINISHES											
5.1 Corridors				$25,000					$455,000		$1,005,000
5.2 Lobby									$30,000		$60,000
5.3 Stairwells									$45,000		$100,000
5.4 Common Rooms				$75,000					$55,000		$235,000
6.0 POOL/SPA/SAUNA AREA											
6.1 Pool											$150,000
6.2 Finishes											$0
6.3 Pool Mechanical Equipment				$9,000					$18,000		$215,000
7.0 MECHANICAL SYSTEMS											
7.1 Heating & Cooling Plants											$800,000
7.2 Hydronic Specialties				$60,000					$113,000		$271,000
7.3 Distribution Equipment				$10,000					$10,000		$60,000
7.4 Terminal Equipment									$85,000	$15,000	$100,000
7.5 Self-Contained Equipment									$23,000		$46,000
7.6 Miscellaneous Mechanical Equipment				$10,000					$10,000		$60,000
8.0 VENTILATION SYSTEMS											
8.1 Building Ventilation Systems				$1,000					$15,000		$244,000
8.2 Garage Ventilation Systems			$26,000	$14,000		$26,000			$86,000		$396,000
9.0 PLUMBING SYSTEMS											
9.1 Plumbing Systems				$20,000					$30,000		$260,000
9.2 Domestic Hot Water									$168,000		$364,000
10.0 ELECTRICAL SYSTEM											
10.1 Main Electrical Service											$0
10.2 Electrical Distribution Equipment											$0
11.0 EMERGENCY POWER SYSTEM											
11.1 Generator Equipment									$622,000		$622,000
12.0 LIGHTING SYSTEM											
12.1 Lighting System				$20,000					$140,000		$335,000
13.0 FIRE PROTECTION SYSTEM											
13.1 Fire Suppression System				$3,000					$144,000		$200,000
13.2 Fire Alarm System				$115,000					$115,000		$290,000
14.0 SECURITY SYSTEM											
14.1 Security System									$40,000		$80,000
14.2 CCTV System				$10,000					$30,000		$100,000
15.0 ELEVATOR SYSTEM											
15.1 Passenger Elevators				$1,151,000					$7,000		$1,186,000
15.2 Accessibility Lifts									$30,000		$60,000
16.0 SITE MAINTENANCE EQUIPMENT											
16.1 Waste Collection Equipment				$15,000					$15,000		$90,000
16.2 Vehicles & Motorized Equipment									$6,000		$18,000
GENERAL											
Contingencies											$0
Reserve Fund Study Update		$5,500			$8,500			$5,500			$69,400
YEARLY EXPENDITURE TOTALS	$0	$5,500	$26,000	$2,035,000	$8,500	$26,000	$0	$5,500	$3,667,500	$15,000	$11,551,900
EXPENDITURES INCL. INFLATION	$0	$9,238	$44,761	$3,590,983	$15,374	$48,203	$0	$10,713	$7,322,145	$30,696	$19,393,479
CONTRIBUTIONS FROM FEES	$688,219	$705,424	$723,060	$741,136	$759,665	$778,657	$798,123	$818,076	$838,528	$859,491	$18,439,135
ADDITIONAL CONTRIBUTIONS											$0
INTEREST CONTRIBUTIONS	$118,238	$138,384	$158,580	$91,073	$111,725	$132,542	$155,566	$179,390	$21,528	$42,524	$2,985,948
REMAINING RESERVE FUND	$5,191,878	$6,026,449	$6,863,328	$4,104,555	$4,960,571	$5,823,567	$6,777,256	$7,764,008	$1,301,919	$2,173,238	$2,173,238
										REMAINING RESERVE FUND IN 2026 DOLLARS	**$1,061,977**

3) Inflation assumed to be at an average rate of 2.5% over the time frame examined above.

KELLER ENGINEERING

APPENDIX B: MANAGEMENT PLANNING TABLE

OCSCC 1106 : Annual Major Repair & Replacement Work, Fiscal Years 2025/26 to 2054/55

Year		Description of Work	Cost	Yearly Total	Inflated Yearly Total
2	2025/26	Reserve Fund Study Update with Site Visit	$7,900		
		Expenditures Total		$7,900	$7,900
3	2026/27	8.2 NO2 Sensors Replacement Allowance	$26,000		
		Expenditures Total		$26,000	$26,650
4	2027/28	No Work Scheduled			
		Expenditures Total		$0	$0
5	2028/29	1.1 Water Mains and Supply Lines Minor Repairs / Investigation	$5,000		
		1.1 Sanitary Sewers Minor Repairs / Investigation	Included 1.1		
		1.1 Storm Sewers Minor Repairs / Investigation	Included 1.1		
		2.2 Landscaped Planters Replacement	$7,000		
		2.2 2nd Floor Terrace Furniture Replacement and Renewal	$5,000		
		3.2 Intermediate Slab Traffic Bearing Membrane Localized Repairs	$50,000		
		4.4 Glass Localized Replacement	$50,000		
		5.1 Interior Unit Doors Isolated Replacement	$25,000		
		6.3 Chemical Systems Isolated Replacement Allowance	$3,000		
		7.3 Hydronic Piping Repairs Allowance	$10,000		
		7.6 Building Control Systems Updates & Overhaul Allowance	$10,000		
		8.1 CO Gas Sensors Replacement Allowance	$1,000		
		8.2 CO Sensors Replacement Allowance	$14,000		
		9.1 Plumbing Repair Allowance	$10,000		
		9.1 Sump Pumps Replacement Allowance	$10,000		
		12.1 Exit Signage Isolated Replacement Allowance	$10,000		
		12.1 Isolated Replacement of Light Fixtures Allowance	$10,000		
		13.1 Fire Extinguishers Isolated Replacement Allowance	$3,000		
		13.2 Fire Alarm Sensors Replacement Allowance	$15,000		
		14.2 Security Cameras Replacement Allowance	$10,000		
		14.2 TSSA Contingency Allowance	$7,000		
		16.1 Garbage Chute Repair Allowance	$10,000		
		16.1 Garbage Hydraulic Compactor Overhaul or Replacement Allowance	$5,000		
		Reserve Fund Study Update without Site Visit	$5,500		
		Expenditures Total		$275,500	$296,683
6	2029/30	8.2 NO2 Sensors Replacement Allowance	$26,000		
		Expenditures Total		$26,000	$28,699
7	2030/31	No Work Scheduled			
		Expenditures Total		$0	$0
8	2031/32	Reserve Fund Study Update with Site Visit	$8,500		
		Expenditures Total		$8,500	$9,857
9	2032/33	8.2 NO2 Sensors Replacement Allowance	$26,000		
		Expenditures Total		$26,000	$30,906

Notes:
1) Estimates for expenditures include HST and, where applicable, engineering fees.
2) Inflation assumed to be at an average of 2.5 % over the time frame examined above.

OCSCC 1106 : Annual Major Repair & Replacement Work, Fiscal Years 2025/26 to 2054/55

Year		Description of Work		Cost	Yearly Total	Inflated Yearly Total
10	2033/34	1.1	Water Mains and Supply Lines Minor Repairs / Investigation	$5,000		
		1.1	Sanitary Sewers Minor Repairs / Investigation	Included 1.1		
		1.1	Storm Sewers Minor Repairs / Investigation	Included 1.1		
		2.1	Concrete Sidewalk (Shared) Repairs	$5,000		
		2.2	Landscaped Planters Replacement	$7,000		
		2.2	2nd Floor Terrace Furniture Replacement and Renewal	$5,000		
		3.2	Concrete Slab-On-Grade & On-Grade Columns & Walls	$50,000		
		3.2	Intermediate Slab Traffic Bearing Membrane Localized Repairs	$50,000		
		4.3	Curtain Wall Localized Glass Replacement	$50,000		
		4.4	Glass Localized Replacement	$50,000		
		5.1	Ceiling Finish Acoustical tile Replacement	$10,000		
		5.1	Mechanical & Storage Room Doors Isolated Replacement	$10,000		
		5.3	Doors Isolated Replacement	$10,000		
		5.4	General Replacement Allowance for Finishing and Furnishing	$25,000		
		6.3	Pump, Sand Filter & Strainer Replacement Allowance	$5,000		
		6.3	Electric Pool Water Heater 30kW Replacement	$10,000		
		6.3	Chemical Systems Isolated Replacement Allowance	$3,000		
		7.2	Snow Melt Circulator Pump Replacement	$1,000		
		7.2	Expansion Tank Bladder Replacement	$18,000		
		7.3	Hydronic Piping Repairs Allowance	$10,000		
		7.6	Building Control Systems Updates & Overhaul Allowance	$10,000		
		8.1	CO Gas Sensors Replacement Allowance	$1,000		
		8.1	Ventilation & Exhaust Fans Isolated Replacement Allowance	$10,000		
		8.2	CO Sensors Replacement Allowance	$14,000		
		9.1	Plumbing Repair Allowance	$10,000		
		9.1	Sump Pumps Replacement Allowance	$10,000		
		9.2	Diaphragm Expansion Tank Replacement	$10,000		
		9.2	Thermostatic Mixing Valves Repair or Replacement	$10,000		
		9.2	DHW Recirculation Pump Replacement	$8,000		
		12.1	Exit Signage Isolated Replacement Allowance	$10,000		
		12.1	Isolated Replacement of Light Fixtures Allowance	$10,000		
		13.1	Fire Extinguishers Isolated Replacement Allowance	$3,000		
		13.2	Fire Alarm Sensors Replacement Allowance	$15,000		
		14.2	Security Cameras Replacement Allowance	$10,000		
		14.2	TSSA Contingency Allowance	$7,000		
		16.1	Garbage Chute Repair Allowance	$10,000		
		16.1	Garbage Hydraulic Compactor Overhaul or Replacement Allowance	$5,000		
		16.2	Walk Behind Sweeper Replacement	$6,000		
			Expenditures Total		$483,000	$588,489
11	2034/35		Reserve Fund Study Update without Site Visit	$5,500		
			Expenditures Total		$5,500	$6,869
12	2035/36	8.2	NO2 Sensors Replacement Allowance	$26,000		
			Expenditures Total		$26,000	$33,282
13	2036/37		No Work Scheduled			
			Expenditures Total		$0	$0
14	2037/38		Reserve Fund Study Update with Site Visit	$8,500		
			Expenditures Total		$8,500	$11,432

Notes:
1) Estimates for expenditures include HST and, where applicable, engineering fees.
2) Inflation assumed to be at an average of 2.5 % over the time frame examined above.

OCSCC 1106 : Annual Major Repair & Replacement Work, Fiscal Years 2025/26 to 2054/55

Year		Description of Work	Cost	Yearly Total	Inflated Yearly Total
15	2038/39	1.1 Water Mains and Supply Lines Minor Repairs / Investigation	$5,000		
		1.1 Sanitary Sewers Minor Repairs / Investigation	Included 1.1		
		1.1 Storm Sewers Minor Repairs / Investigation	Included 1.1		
		2.2 Landscaped Planters Replacement	$7,000		
		2.2 2nd Floor Terrace Furniture Replacement and Renewal	$5,000		
		3.2 Painting General Repairs	$100,000		
		3.2 Intermediate Slab Traffic Bearing Membrane Localized Repairs	$50,000		
		3.3 Terrace Waterproofing Membrane Modified Bitumen Membrane Replacement	$10,000		
		4.3 Curtain Wall Localized Glass Replacement	$50,000		
		4.4 Clarridge Albert Garage Vehicle Door Replacement	$20,000		
		4.4 Level P4 Garage Vehicle Door Replacement	$40,000		
		4.4 Glass Localized Replacement	$50,000		
		4.6 Sealants Replacement	$250,000		
		5.1 Wall Finish Repainting	$215,000		
		5.1 Floor Finish Carpet Replacement	$165,000		
		5.1 Floor Finish Hardwood Flooring Refinishing	$15,000		
		5.1 Ceiling Finish Repainting	$40,000		
		5.1 Interior Unit Doors Isolated Replacement	$25,000		
		5.2 Wall Finish Refinishing	$20,000		
		5.2 Furniture Replacement	$10,000		
		5.3 Wall Finish Painting Replacement	$35,000		
		5.4 Doors Localized Repairs or Replacement	$10,000		
		5.4 Mail Room Refinishing	$5,000		
		5.4 Lounge Refinishing	$15,000		
		5.4 General Replacement Allowance for Finishing and Furnishing	$25,000		
		6.3 Chemical Systems Isolated Replacement Allowance	$3,000		
		7.3 Hydronic Piping Repairs Allowance	$10,000		
		7.5 Ductless Split Air Conditioner Unit 3 Ton Replacement	$10,000		
		7.5 Multi Head-Ductless Split Air Source Heat Pump Replacement	$13,000		
		7.6 Building Control Systems Updates & Overhaul Allowance	$10,000		
		8.1 CO Gas Sensors Replacement Allowance	$1,000		
		8.1 CO Gas Monitoring System Replacement	$4,000		
		8.2 Garage Gas Monitor Controller Replacement	$6,000		
		8.2 NO2 Sensors Replacement Allowance	$26,000		
		8.2 CO Sensors Replacement Allowance	$14,000		
		9.1 Plumbing Repair Allowance	$10,000		
		9.1 Sump Pumps Replacement Allowance	$10,000		
		9.1 Backflow Preventer Overhaul or Replacement Allowance	$10,000		
		9.2 Condensing Gas Fueled DHW Tank Heaters MBH Replacement	$140,000		
		12.1 Lobby Light Fixtures Replacement Allowance	$5,000		
		12.1 Corridor Light Fixtures Replacement Allowance	$80,000		
		12.1 Common Room Light Fixtures Replacement Allowance	$10,000		
		12.1 Exit Signage Isolated Replacement Allowance	$10,000		
		12.1 Isolated Replacement of Light Fixtures Allowance	$10,000		
		13.1 Fire Hoses Replacement Allowance	$25,000		
		13.1 Overhaul or Replacement Allowance	$10,000		
		13.1 Dry Pipe Sprinkler Air Compressor Replacement	$6,000		
		13.1 Fire Extinguishers Isolated Replacement Allowance	$3,000		
		13.2 Fire Alarm Sensors Replacement Allowance	$15,000		
		14.1 Phone Based Door Entry System Replacement	$10,000		
		14.1 Key Fob System Replacement	$30,000		
		14.2 DVR & Monitoring Station Replacement	$20,000		
		14.2 Security Cameras Replacement Allowance	$10,000		
		14.2 TSSA Contingency Allowance	$7,000		

Notes:
1) Estimates for expenditures include HST and, where applicable, engineering fees.
2) Inflation assumed to be at an average of 2.5 % over the time frame examined above.

OCSCC 1106 : Annual Major Repair & Replacement Work, Fiscal Years 2025/26 to 2054/55

Year		Description of Work		Cost	Yearly Total	Inflated Yearly Total
	15.2	Inclined Wheelchair Platform Replacement		$20,000		
	15.2	Pool Lift Replacement		$10,000		
	16.1	Garbage Chute Repair Allowance		$10,000		
	16.1	Garbage Hydraulic Compactor Overhaul or Replacement Allowance		$5,000		
		Expenditures Total			$1,730,000	$2,384,824
16 2039/40		No Work Scheduled				
		Expenditures Total			$0	$0
17 2040/41		Reserve Fund Study Update without Site Visit		$5,500		
		Expenditures Total			$5,500	$7,966
18 2041/42	8.2	NO2 Sensors Replacement Allowance		$26,000		
		Expenditures Total			$26,000	$38,597
19 2042/43		No Work Scheduled				
		Expenditures Total			$0	$0
20 2043/44	1.1	Water Mains and Supply Lines Minor Repairs / Investigation		$5,000		
	1.1	Sanitary Sewers Minor Repairs / Investigation		Included 1.1		
	1.1	Storm Sewers Minor Repairs / Investigation		Included 1.1		
	2.1	Pavers Walkways Replacement		$15,000		
	2.1	Concrete Sidewalk (Shared) Repairs		$5,000		
	2.2	Landscaped Planters Replacement		$7,000		
	2.2	2nd Floor Terrace Furniture Replacement and Renewal		$5,000		
	3.1	Foundation Walls Repairs		Included 3.1		
	3.2	Intermediate Slab Traffic Bearing Membrane Replacement		$650,000		
	3.2	Intermediate Slab Traffic Bearing Membrane – Share Drive Lane Replacement		$450,000		
	3.2	Concrete Slab-On-Grade & On-Grade Columns & Walls		$50,000		
	3.2	Intermediate Slab Traffic Bearing Membrane Localized Repairs		$50,000		
	4.3	Curtain Wall Localized Glass Replacement		$50,000		
	4.4	Glass Localized Replacement		$50,000		
	5.1	Ceiling Finish Acoustical tile Replacement		$10,000		
	5.1	Mechanical & Storage Room Doors Isolated Replacement		$10,000		
	5.3	Doors Isolated Replacement		$10,000		
	5.4	General Replacement Allowance for Finishing and Furnishing		$25,000		
	6.1	Pool Waterproofing and Ceramic Tile Replacement		$150,000		
	6.3	Pump, Sand Filter & Strainer Replacement Allowance		$5,000		
	6.3	Electric Pool Water Heater 30kW Replacement		$10,000		
	6.3	Natatorium Dehumidifier Replacement		$140,000		
	6.3	Electric Duct Heater 15kW Replacement		$6,000		
	6.3	Chemical Systems Isolated Replacement Allowance		$3,000		
	7.1	Gas Fueled Condensing Boilers 1372 MBH Replacement		$200,000		
	7.1	Boiler Circulator Pumps Replacement		Included 7.1		
	7.1	Scroll Compressor Water Chiller Ton Replacement		$600,000		
	7.2	Plate & Frame Heat Exchanger Replacement		$60,000		
	7.2	Snow Melt Circulator Pump Replacement		$1,000		
	7.2	Expansion Tank Bladder Replacement		$18,000		
	7.3	Hydronic Piping Repairs Allowance		$10,000		
	7.6	Building Control Systems Updates & Overhaul Allowance		$10,000		
	8.1	CO Gas Sensors Replacement Allowance		$1,000		
	8.1	Gas Fueled Make-up Air Unit Replacement		$200,000		
	8.1	Ventilation & Exhaust Fans Isolated Replacement Allowance		$10,000		
	8.2	CO Sensors Replacement Allowance		$14,000		

Notes:
1) Estimates for expenditures include HST and, where applicable, engineering fees.
2) Inflation assumed to be at an average of 2.5 % over the time frame examined above.

OCSCC 1106 : Annual Major Repair & Replacement Work, Fiscal Years 2025/26 to 2054/55

Year			Description of Work	Cost	Yearly Total	Inflated Yearly Total
		9.1	Plumbing Repair Allowance	$10,000		
		9.1	Sump Pumps Replacement Allowance	$10,000		
		9.1	Domestic Water Booster Pumps Replacement	$120,000		
		9.2	Diaphragm Expansion Tank Replacement	$10,000		
		9.2	Thermostatic Mixing Valves Repair or Replacement	$10,000		
		9.2	DHW Recirculation Pump Replacement	$8,000		
		12.1	Exit Signage Isolated Replacement Allowance	$10,000		
		12.1	Isolated Replacement of Light Fixtures Allowance	$10,000		
		13.1	Fire Extinguishers Isolated Replacement Allowance	$3,000		
		13.2	Fire Alarm Sensors Replacement Allowance	$15,000		
		14.2	Security Cameras Replacement Allowance	$10,000		
		14.2	TSSA Contingency Allowance	$7,000		
		16.1	Garbage Chute Repair Allowance	$10,000		
		16.1	Garbage Hydraulic Compactor Overhaul or Replacement Allowance	$5,000		
		16.2	Walk Behind Sweeper Replacement	$6,000		
			Reserve Fund Study Update with Site Visit	$8,500		
			Expenditures Total		$3,082,500	$4,807,648
21	2044/45	8.2	NO2 Sensors Replacement Allowance	$26,000		
			Expenditures Total		$26,000	$41,565
22	2045/46		No Work Scheduled			
			Expenditures Total		$0	$0
23	2046/47		Reserve Fund Study Update without Site Visit	$5,500		
			Expenditures Total		$5,500	$9,238
24	2047/48	8.2	NO2 Sensors Replacement Allowance	$26,000		
			Expenditures Total		$26,000	$44,761
25	2048/49	1.1	Water Mains and Supply Lines Minor Repairs / Investigation	$5,000		
		1.1	Sanitary Sewers Minor Repairs / Investigation	Included 1.1		
		1.1	Storm Sewers Minor Repairs / Investigation	Included 1.1		
		2.2	Landscaped Planters Replacement	$7,000		
		2.2	2nd Floor Terrace Furniture Replacement and Renewal	$5,000		
		3.2	Intermediate Slab Traffic Bearing Membrane Localized Repairs	$50,000		
		3.3	Balcony Partitions Aluminum with Glass Panels Replacement	$30,000		
		4.1	Brick Veneer General Repairs	$300,000		
		4.3	Curtain Wall Localized Glass Replacement	$50,000		
		4.4	Glass Localized Replacement	$50,000		
		5.1	Interior Unit Doors Isolated Replacement	$25,000		
		5.4	Exercise Room Refinishing	$15,000		
		5.4	Theatre Room Refinishing	$15,000		
		5.4	Business Center Refinishing	$20,000		
		5.4	General Replacement Allowance for Finishing and Furnishing	$25,000		
		6.3	Fans Replacement	$6,000		
		6.3	Chemical Systems Isolated Replacement Allowance	$3,000		
		7.2	Fan Coil Loop Pumps 510gpm 25HP Replacement	$60,000		
		7.3	Hydronic Piping Repairs Allowance	$10,000		
		7.6	Building Control Systems Updates & Overhaul Allowance	$10,000		
		8.1	CO Gas Sensors Replacement Allowance	$1,000		
		8.2	CO Sensors Replacement Allowance	$14,000		
		9.1	Plumbing Repair Allowance	$10,000		
		9.1	Sump Pumps Replacement Allowance	$10,000		

Notes:
1) Estimates for expenditures include HST and, where applicable, engineering fees.
2) Inflation assumed to be at an average of 2.5 % over the time frame examined above.

OCSCC 1106 : Annual Major Repair & Replacement Work, Fiscal Years 2025/26 to 2054/55

Year			Description of Work	Cost	Yearly Total	Inflated Yearly Total
		12.1	Exit Signage Isolated Replacement Allowance	$10,000		
		12.1	Isolated Replacement of Light Fixtures Allowance	$10,000		
		13.1	Fire Extinguishers Isolated Replacement Allowance	$3,000		
		13.2	Fire Alarm Panels with Voice Annunciator Replacement	$100,000		
		13.2	Fire Alarm Sensors Replacement Allowance	$15,000		
		14.2	Security Cameras Replacement Allowance	$10,000		
		14.2	TSSA Contingency Allowance	$7,000		
		15.1	Traction Elevator Controls Modernization	$1,144,000		
		15.1	Cab Interiors Replacement	Included 15.1		
		16.1	Garbage Chute Repair Allowance	$10,000		
		16.1	Garbage Hydraulic Compactor Overhaul or Replacement Allowance	$5,000		
			Expenditures Total		$2,035,000	$3,590,983
26	2049/50		Reserve Fund Study Update with Site Visit	$8,500		
			Expenditures Total		$8,500	$15,374
27	2050/51	8.2	NO2 Sensors Replacement Allowance	$26,000		
			Expenditures Total		$26,000	$48,203
28	2051/52		No Work Scheduled			
			Expenditures Total		$0	$0
29	2052/53		Reserve Fund Study Update without Site Visit	$5,500		
			Expenditures Total		$5,500	$10,713
30	2053/54	1.1	Water Mains and Supply Lines Minor Repairs / Investigation	$5,000		
		1.1	Sanitary Sewers Minor Repairs / Investigation	Included 1.1		
		1.1	Storm Sewers Minor Repairs / Investigation	Included 1.1		
		2.1	Concrete Sidewalk (Shared) Repairs	$5,000		
		2.2	2nd Floor Terrace Pavers Replacement	$62,500		
		2.2	Landscaped Planters Replacement	$7,000		
		2.2	2nd Floor Terrace Furniture Replacement and Renewal	$5,000		
		3.2	Concrete Slab-On-Grade & On-Grade Columns & Walls	$50,000		
		3.2	Intermediate Slab Traffic Bearing Membrane Localized Repairs	$50,000		
		3.3	Balcony Structure Concrete Slabs Major Repairs	$500,000		
		3.3	Terrace Waterproofing Membrane Modified Bitumen Membrane Replacement	$10,000		
		4.3	Curtain Wall Localized Glass Replacement	$50,000		
		4.4	Front Entry Door Replacement	$6,000		
		4.4	Glass Localized Replacement	$50,000		
		4.5	Inverted Hot Rubber Replacement	$325,000		
		4.6	Sealants Replacement	$250,000		
		5.1	Wall Finish Repainting	$215,000		
		5.1	Floor Finish Carpet Replacement	$165,000		
		5.1	Floor Finish Hardwood Flooring Refinishing	$15,000		
		5.1	Ceiling Finish Repainting	$40,000		
		5.1	Ceiling Finish Acoustical tile Replacement	$10,000		
		5.1	Mechanical & Storage Room Doors Isolated Replacement	$10,000		
		5.2	Wall Finish Refinishing	$20,000		
		5.2	Furniture Replacement	$10,000		
		5.3	Wall Finish Painting Replacement	$35,000		
		5.3	Doors Isolated Replacement	$10,000		
		5.4	Doors Localized Repairs or Replacement	$10,000		
		5.4	Mail Room Refinishing	$5,000		
		5.4	Lounge Refinishing	$15,000		

Notes:
1) Estimates for expenditures include HST and, where applicable, engineering fees.
2) Inflation assumed to be at an average of 2.5 % over the time frame examined above.

OCSCC 1106 : Annual Major Repair & Replacement Work, Fiscal Years 2025/26 to 2054/55

Year		Description of Work	Cost	Yearly Total	Inflated Yearly Total
	5.4	General Replacement Allowance for Finishing and Furnishing	$25,000		
	6.3	Pump, Sand Filter & Strainer Replacement Allowance	$5,000		
	6.3	Electric Pool Water Heater 30kW Replacement	$10,000		
	6.3	Chemical Systems Isolated Replacement Allowance	$3,000		
	7.2	Base Mounted Glycol Chiller Loop Pumps 735gpm 15HP Replacement	$90,000		
	7.2	Glycol Tank Feeder Replacement	$4,000		
	7.2	Snow Melt Circulator Pump Replacement	$1,000		
	7.2	Expansion Tank Bladder Replacement	$18,000		
	7.3	Hydronic Piping Repairs Allowance	$10,000		
	7.4	Fan Coils Replacement	$70,000		
	7.4	Hydronic Unit Heaters Replacement	$15,000		
	7.5	Ductless Split Air Conditioner Unit 3 Ton Replacement	$10,000		
	7.5	Multi Head-Ductless Split Air Source Heat Pump Replacement	$13,000		
	7.6	Building Control Systems Updates & Overhaul Allowance	$10,000		
	8.1	CO Gas Sensors Replacement Allowance	$1,000		
	8.1	Ventilation & Exhaust Fans Isolated Replacement Allowance	$10,000		
	8.1	CO Gas Monitoring System Replacement	$4,000		
	8.2	Exhaust Fans Replacement	$24,000		
	8.2	Motorized Dampers Replacement or Overhaul	$16,000		
	8.2	Garage Gas Monitor Controller Replacement	$6,000		
	8.2	NO2 Sensors Replacement Allowance	$26,000		
	8.2	CO Sensors Replacement Allowance	$14,000		
	9.1	Plumbing Repair Allowance	$10,000		
	9.1	Sump Pumps Replacement Allowance	$10,000		
	9.1	Backflow Preventer Overhaul or Replacement Allowance	$10,000		
	9.2	Condensing Gas Fueled DHW Tank Heaters MBH Replacement	$140,000		
	9.2	Diaphragm Expansion Tank Replacement	$10,000		
	9.2	Thermostatic Mixing Valves Repair or Replacement	$10,000		
	9.2	DHW Recirculation Pump Replacement	$8,000		
	11.1	Natural Gas Fueled Generator 600V, 300kW Replacement	$560,000		
	11.1	Automatic Transfer Switches Replacement	$62,000		
	12.1	Garage Light Fixtures Replacement Allowance	$25,000		
	12.1	Lobby Light Fixtures Replacement Allowance	$5,000		
	12.1	Corridor Light Fixtures Replacement Allowance	$80,000		
	12.1	Common Room Light Fixtures Replacement Allowance	$10,000		
	12.1	Exit Signage Isolated Replacement Allowance	$10,000		
	12.1	Isolated Replacement of Light Fixtures Allowance	$10,000		
	13.1	Fire Hoses Replacement Allowance	$25,000		
	13.1	Overhaul or Replacement Allowance	$10,000		
	13.1	Dry Pipe Sprinkler Air Compressor Replacement	$6,000		
	13.1	Listed Fire Pump Set Replacement	$100,000		
	13.1	Fire Extinguishers Isolated Replacement Allowance	$3,000		
	13.2	Fire Alarm Sensors Replacement Allowance	$15,000		
	13.2	Fire Alarm Panels with Voice Annunciator Replacement	$100,000		
	13.2	Fire Alarm Remote Annunciator Panel Replacement	Included 13.2		
	13.2	Fire Alarm Booster Panels Replacement	Included 3.2		
	14.1	Phone Based Door Entry System Replacement	$10,000		
	14.1	Key Fob System Replacement	$30,000		
	14.2	DVR & Monitoring Station Replacement	$20,000		
	14.2	Security Cameras Replacement Allowance	$10,000		
	14.2	TSSA Contingency Allowance	$7,000		
	15.2	Inclined Wheelchair Platform Replacement	$20,000		
	15.2	Pool Lift Replacement	$10,000		
	16.1	Garbage Chute Repair Allowance	$10,000		
	16.1	Garbage Hydraulic Compactor Overhaul or Replacement Allowance	$5,000		

Notes:
1) Estimates for expenditures include HST and, where applicable, engineering fees.
2) Inflation assumed to be at an average of 2.5 % over the time frame examined above.

OCSCC 1106 : Annual Major Repair & Replacement Work, Fiscal Years 2025/26 to 2054/55

Year		Description of Work		Cost	Yearly Total	Inflated Yearly Total
	16.2	Walk Behind Sweeper Replacement		$6,000		
		Expenditures Total			$3,667,500	$7,322,145
31	2054/55	7.4	Hydronic Unit Heaters Replacement	$15,000		
			Expenditures Total		$15,000	$30,696

Notes:
1) Estimates for expenditures include HST and, where applicable, engineering fees.
2) Inflation assumed to be at an average of 2.5 % over the time frame examined above.

APPENDIX C: OTHER CONSULTANT REPORTS

Rooney, Irving & Assoc. Ltd.
613-726-2049
admin@rooneyirving.ca

ELEVATOR PERFORMANCE AUDIT

340 Queen Street, Ottawa, Ontario

Date of Report
October 2024

1.0 PURPOSE

On October 22, 2024, RiA conducted a study of the elevator equipment located at 340 Queen Street, Ottawa, Ontario on behalf of Keller. The purpose of this assessment was to determine the condition of the elevator equipment, evaluate the quality of maintenance provided by the elevator service contractor, and identify any evident maintenance deficiencies.

The site review primarily involved visual inspection, and system components were not disassembled as part of the scope of work.

2.0 SUMMARY, RECOMMENDATIONS AND COSTS

RiA recommends that the deficiencies of Section 5 of this report be referred to the maintenance contractor for their corrective action. A reasonable period of 60 days is recommended for addressing these deficiencies.

Most of the major components of the existing elevator system should be encompassed within a comprehensive maintenance program. Under this assumption, major capital expenditures for component replacement or repair should be minimal throughout the system's lifespan, with exceptions limited to instances of vandalism or obsolesce-related replacements.

Additionally, terminating the services of a maintenance contractor, or having a contractor terminate their own contract, may result in unforeseen costs. In such instances, a new contractor may necessitate supplementary fees to cover the repair or replacement of major components left in poor condition by the previous contractor. To mitigate these additional expenses, proactive oversight of the maintenance contractor's performance is recommended.

Complete modernization – With proper maintenance under the terms of a full maintenance contract, the elevator equipment is anticipated to have a remaining useful life of approximately twenty-four (24) years. At such time the existing controllers, motor drives, and machines may require replacement. Additionally, a modernization typically involves the replacement of all operating buttons and fixtures, along with the replacement of all wiring. The upgrading cost for the existing elevator system includes all feasible associated work required to ensure the elevator system complies with the latest edition of the CSA Safety Code for Elevators. Elevator modernization is predicted to cost $1,012,152. This includes the cost of a cab modernization.

Contingency fund for Provincial regulator – Periodically, the Technical Standards and Safety Authority (TSSA) dictates remedial work that must be carried out on various types of elevators. As these rulings become enforced, the Owner is responsible for the cost to ensure that the elevator is in compliance. It is recommended that a contingency fund of $6,000 is established every five (5) years to cover the cost of any future mandatory work for this site.

Full load testing – Elevator maintenance contracts have historically covered all testing. However, more recently contractors have sought extra payment to cover full load testing, which is now required every 5 years. If this is not already covered under the current maintenance agreement, it is recommended to allow $9,000 for each 60-month cycle to cover this testing.

3.0 DESCRIPTION OF VERTICAL TRANSPORTATION SYSTEM

The vertical transportation system consists of 3 gearless side mount traction passenger elevators.

3.1 Technical Data

The technical and nameplate data of the elevating equipment is as follows:

Category	Description
Building Designation	1-2-3
Installation Number	70002982-3-4
Class	Passenger
Capacity	2500 lb
Speed	500 fpm
Floors Served	32
Rear Floors?	No
Car Door Opening	42" wide x 84" high Single-speed, side-opening
Door Protection	Multibeam infrared detector
Door Operator	ThyssenKrupp
Machine	Torin TGL1-3550 Side mount gearless, 60 HP
Motor Drive	VVVF
Electrical Controller	ThyssenKrupp TAC32T, 600 volt, 3 phase
Roping	7 x 12.7mm, double-wrapped, 2:1
Manufacturer	ThyssenKrupp Elevator
Installation Date	circa 2023
Maintenance Contractor	TK Elevator

3.2 Existing Conditions

The elevator system was manufactured and installed by ThyssenKrupp Elevator (now TK Elevator) circa 2023

The ThyssenKrupp elevator control system provided would most likely be considered proprietary by any elevator service contractor other than the original equipment manufacturer. This may restrict the owner's options for a selecting maintenance contractor and limit their ability to obtain competitive pricing for full parts and labour maintenance.

Speed control of the elevator system is achieved through a solid-state drive – VVVF. This system represents an improvement in energy efficiency, elevator control and ease of maintenance over previous motor drive systems.

It was observed that the elevator system has been equipped with Firefighter's Emergency Operation – automatic emergency recall and in-car emergency service operation. Additionally, the elevator system appears to be connected to an emergency power source within the building, enabling it to function in the event of a utility power failure. However, these systems were not tested as part of this review.

The existing car cab finishes consist of hard ceramic flooring, metal pan ceiling, raised laminate walls. The finishes remain in very good condition at this time. The cabs and fixtures meet most or all of the requirements of CSA B44 Code, Appendix E - Elevator Requirements for Persons with Physical Disabilities.

4.0 MEASURED PERFORMANCE

The parameters defined below have been measured. Those requiring adjustment are highlighted in red and are reflected in the Maintenance Deficiencies section of this report.

Parameter	Required	Elev. 1	Elev. 2	Elev. 3
Car Speed UP	*500 fpm ±5%*	496	498	496
Car Speed DOWN	*500 fpm ±5%*	495	498	501
Flight Time UP	*≤ 9.6 sec*	11.5	10.5	11.1
Flight Time DOWN	*≤ 9.6 sec*	11.3	10.9	11.5
Average Accel UP	*0.09 g*	0.13	0.13	0.13
Max Jerk	*≤ 8 f/s^3*	11	11	11
Door Stall Force	*≤ 30 lb*	22	27	22
Levelling Accuracy	*1/4"*	1/4"	1/2"	1/4"

Table Definitions

Car Speed: *The normal maximum running speed of the elevator, measured in feet per minute.*

Flight Time: *The time elapsed for an elevator to serve two consecutive floors, measured from the time the elevator doors begin to close until they are 3/4 open at the next floor.*

Average Acceleration: *The average acceleration experienced in the car when approaching top speed, measured as gravity - g. The acceleration measurement is compared to a suggested value which is dependent on the type of elevator system - hydraulic, geared, or gearless.*

Maximum Jerk: *The maximum change in acceleration experienced in the car over the ride including start, acceleration, deceleration and stop. Jerk is measured in feet per second (cubed). The Jerk measurement is compared to a suggested value which is dependent on the type of elevator system - hydraulic, geared, or gearless.*

Door Stall Force: *The force exerted by the elevator car door, during a door close cycle but after the door has been manually brought to a stop. The force is measured while the door is approximately 1/3 closed. The measured force is compared to the maximum force allowed by the CSA Safety Code for Elevators - 30 lb of force.*

Levelling Accuracy: *The observed accuracy of floor landing at the time of our review. Note that this accuracy can easily vary, even within a given day.*

5.0 MAINTENANCE

The elevator equipment is currently maintained by TK Elevator, presumably under the terms of their full parts and labour contract. As most major components of the elevator system are typically covered under the terms of a full maintenance program, significant capital expenditures for repairing these components should not be expected. However, it's important to note any exceptions to full maintenance coverage detailed contract, such as instances of vandalism or misuse. Additionally, caution is advised regarding the "evergreen" clause commonly found in elevator contractor's maintenance contracts. This will result in the Owner being contractually obligated for a subsequent five-year term, should cancellation notice be given less than 90 days in advance of the fifth anniversary of the contract term.

The maintenance contractor is performing "routine" maintenance visits on a quarterly basis. The maintenance contract in place should be reviewed to confirm if monthly or quarterly visits were to be provided. RIA recommends monthly "routine" visits at a minimum be performed to guarantee a reliable and safe elevator system, and to ensure the longevity of the equipment. It is noted that quarterly visits are the minimum allowed by Code, provided that they align with the maintenance frequencies specified by the various manufacturers of the equipment.

5.1 Maintenance Logs

The machine room safety logs are currently up to date with the exception of the issues noted below. These logs are required in the Province of Ontario to document safety work completed on elevator installations and the applicable legislation puts the onus of completion of the logs on the property owner.

The status of the logs are as follows:

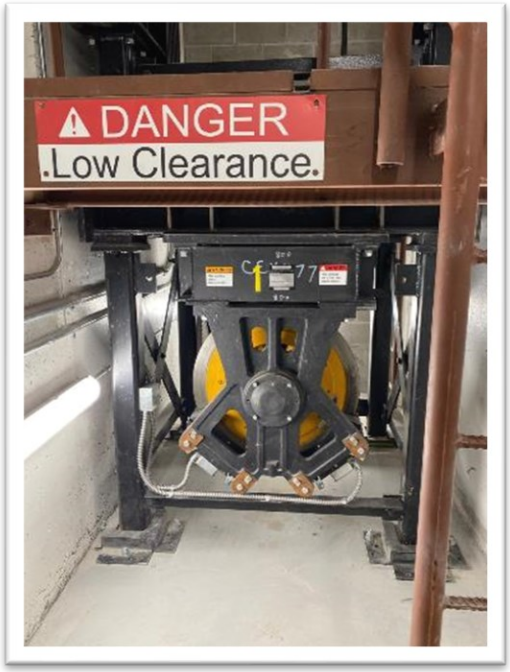
Task	Record
Routine Visits	4 of last 4 planned visits logged Contractor's plan is for quarterly visits
Callback and repair log	Log indicates a reasonable level of calls, if accurate
Annual Work (CAT 1)	Last recorded March 2024
Five-year Work (CAT 5)	Last recorded March/October 2023
Fire Service Testing	Up to date
Emergency / Auxiliary Power Testing	Overdue

5.2 Maintenance Deficiencies

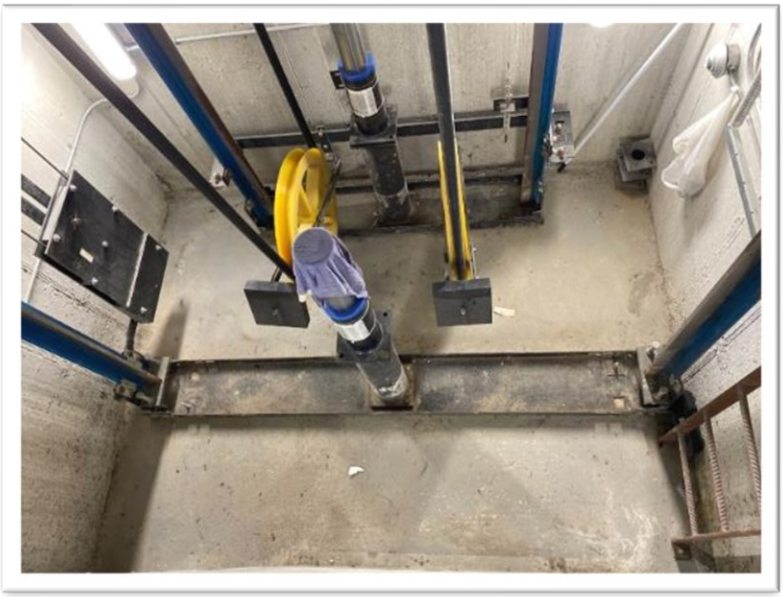
Below are the deficiencies that should be rectified by the maintenance contractor in accordance with the terms of a full-service maintenance contract. A 60-day timeframe is recommended for corrective action. The contractor must confirm the completion of each deficiency by initialing and dating where indicated. If the contractor has any technical questions or concerns regarding any item, they should contact to audits@rooneyirving.ca.

Deficiencies	Date Corrected; Initials
Common to All Elevators	
1. Adjust controls to minimize acceleration and rapid change in acceleration measured as jerk.	
2. Remove rags from car tops.	
3. Clean the FEO cabinets in cab from installation dust and debris.	
4. Perform overdue emergency power testing and record results in the logbook.	
Elevators 1 and 3	
5. Adjust controls to reduce flight times in both directions.	
Elevator 2	
6. Adjust levelling accuracy at all landings to be within ¼”	

APPENDIX A – IMAGES

IMAGE 1 – Machine	
IMAGE 2 – Controller	

APPENDIX A – IMAGES, CONTINUED

IMAGE 3 – Car top	
IMAGE 4 – Pit	

APPENDIX B – PROJECTED CAPITAL COST TABLE

Year / Predicted Work	0-5	6-10	11-15	16-20	21-25	26-30
Future mandatory work required by B44 Safety Code	$6,000	$6,000	$6,000	$6,000	$6,000	$6,000
Full load testing every 60 months (if not covered in existing maintenance contract)	$9,000	$9,000	$9,000	$9,000	$9,000	$9,000
Complete modernization of existing elevators, including B44 Code upgrades and cab interiors					$1,012,152	

Notes of Costs:

- HST not included;
- Based on present-day dollars;
- Work which does not fall under the responsibility of the elevator trade, such as air conditioning, not included.

-END OF REPORT-

APPENDIX D:
NOTICE OF
FUTURE FUNDING
OF RESERVE FUND

NOTICE OF FUTURE FUNDING OF THE RESERVE FUND

(under *subsection 94 (9)* of the *Condominium Act, 1998*)

TO: All Owners of Ottawa-Carleton Standard Condominium Coorporation No. 1106

The Board has received and reviewed a Class 1 - Comprehensive Reserve Fund Study dated May 07, 2025, prepared by Keller Engineering, and has proposed a plan for the future funding of the reserve fund that the Board of Directors has determined will ensure that, in accordance with the regulations made under the Condominium Act, 1998, the reserve fund will be adequate for the major repair and replacement of the common elements and assets of the corporation.

This notice contains:

1. A summary of the reserve fund study.
2. A summary of the proposed funding plan.
3. A statement indicating the areas, if any, in which the proposed funding plan differs from the reserve fund study.

At the present time the average contribution per unit per month to the reserve fund is $131.58. Based on the proposed funding plan, the average increase in contribution per unit per month will be $3.29 in fiscal year 2026/27, $3.37 in fiscal year 2027/28, and $3.46 in fiscal year 2028/29.

The proposed funding plan will be implemented on or before February 1st, 2026.

Dated this _____ day of _____, 2025

OTTAWA-CARLETON STANDARD CONDOMINIUM COORPORATION NO. 1106

_____
, Director

_____
, Director

SUMMARY OF RESERVE FUND STUDY

The following is a summary of the Class 1 - Comprehensive dated May 07, 2025, prepared by Keller Engineering for Ottawa-Carleton Standard Condominium Coorporation No. 1106 (known as the 'Reserve Fund Study').

Subsection 94 (1) of the *Condominium Act, 1998* , requires the corporation to conduct periodic studies to determine whether the amount of money in the reserve fund and the amount of contributions collected by the corporation are adequate to provide for the expected costs of major repair and replacement of the common elements and assets of the corporation. As a result, the corporation has obtained the Reserve Fund Study.

The estimated expenditures from the reserve fund for the next thirty (30) years are set out in the CASH FLOW TABLE. In this summary, the term 'annual contribution' means the total amount to be contributed each year to the reserve fund, exclusive of interest earned on the reserve fund. The recommended annual contribution for 2026/27 is $430,500, based on the estimated expenditures and the following:

Opening Balance of the Reserve Fund:	$ 141,634
Minimum Reserve Fund Balance during the projected period:	$ 562,327
Assumed Annual Inflation Rate for Reserve Fund Expenditures:	2.5%
Assumed Annual Interest Rate for interest earned on the Reserve Fund:	2.5%

The Reserve Fund Study can be examined by making a written request to the Board of Directors of Ottawa-Carleton Standard Condominium Coorporation No. 1106.

CASH FLOW TABLE

Opening Balance of the Reserve Fund:	$ 141,634
Current Annual Contributions:	$ 420,000
Minimum Reserve Fund Balance (as indicated in this table):	$ 562,327
Assumed Annual Inflation Rate for Reserve Fund Expenditures:	2.5%
Assumed Annual Interest Rate for interest on the Reserve Fund:	2.5%

Fiscal Year Ending	Opening Balance	Recommended Annual Total Contribution	Estimated Inflation Adjusted Expenditures	Estimated Interest Earned	Percentage Increase (Decrease) in Recommended Annual Total Contribution	Closing Balance
2025/26	$141,634	$420,000	$7,900	$8,593	N/A	$562,327
2026/27	$562,327	$430,500	$26,650	$18,773	2.5%	$984,951
2027/28	$984,951	$441,263	$0	$30,140	2.5%	$1,456,353
2028/29	$1,456,353	$452,294	$296,683	$34,645	2.5%	$1,646,609
2029/30	$1,646,609	$463,601	$28,699	$46,243	2.5%	$2,127,754
2030/31	$2,127,754	$475,191	$0	$59,134	2.5%	$2,662,079
2031/32	$2,662,079	$487,071	$9,857	$72,394	2.5%	$3,211,687
2032/33	$3,211,687	$499,248	$30,906	$85,760	2.5%	$3,765,789
2033/34	$3,765,789	$511,729	$588,489	$85,829	2.5%	$3,774,859
2034/35	$3,774,859	$524,522	$6,869	$100,756	2.5%	$4,393,269
2035/36	$4,393,269	$537,636	$33,282	$115,720	2.5%	$5,013,342
2036/37	$5,013,342	$551,076	$0	$132,222	2.5%	$5,696,641
2037/38	$5,696,641	$564,853	$11,432	$149,191	2.5%	$6,399,253
2038/39	$6,399,253	$578,975	$2,384,824	$107,598	2.5%	$4,701,002
2039/40	$4,701,002	$593,449	$0	$124,943	2.5%	$5,419,394
2040/41	$5,419,394	$608,285	$7,966	$142,889	2.5%	$6,162,603
2041/42	$6,162,603	$623,492	$38,597	$160,894	2.5%	$6,908,392
2042/43	$6,908,392	$639,080	$0	$180,698	2.5%	$7,728,170
2043/44	$7,728,170	$655,057	$4,807,648	$81,201	2.5%	$3,656,779
2044/45	$3,656,779	$671,433	$41,565	$98,773	2.5%	$4,385,421
2045/46	$4,385,421	$688,219	$0	$118,238	2.5%	$5,191,878
2046/47	$5,191,878	$705,424	$9,238	$138,384	2.5%	$6,026,449
2047/48	$6,026,449	$723,060	$44,761	$158,580	2.5%	$6,863,328
2048/49	$6,863,328	$741,136	$3,590,983	$91,073	2.5%	$4,104,555
2049/50	$4,104,555	$759,665	$15,374	$111,725	2.5%	$4,960,571
2050/51	$4,960,571	$778,657	$48,203	$132,542	2.5%	$5,823,567
2051/52	$5,823,567	$798,123	$0	$155,566	2.5%	$6,777,256
2052/53	$6,777,256	$818,076	$10,713	$179,390	2.5%	$7,764,008
2053/54	$7,764,008	$838,528	$7,322,145	$21,528	2.5%	$1,301,919
2054/55	$1,301,919	$859,491	$30,696	$42,524	2.5%	$2,173,238

SUMMARY OF PROPOSED PLAN FOR FUTURE FUNDING OF THE RESERVE FUND

The following is a summary of the board's proposed plan for the future funding of the reserve fund.

The Board of Ottawa-Carleton Standard Condominium Coorporation No. 1106 has reviewed the Class 1 - Comprehensive dated May 07, 2025 prepared by Keller Engineering for the corporation (known as the 'Reserve Fund Study') and has proposed a plan for the future funding of the reserve fund that the Board has determined will ensure that, in accordance with the regulations made under the Condominium Act, 1998, the reserve fund will be adequate for the major repair and replacement of the common elements and assets of the corporation.

The Board has adopted the funding recommendations of the Reserve Fund Study and will implement them as set out in the CONTRIBUTION TABLE.

The annual contribution recommended under the proposed funding plan for fiscal year 2026/27 is $430,500, which represents an increase of 2.5% over the amount already budgeted.

The Proposed Plan for Future Funding of the Reserve Fund can be examined by making a written request to the Board of Directors of Ottawa-Carleton Standard Condominium Coorporation No. 1106.

CONTRIBUTION TABLE

Fiscal Year Ending	A Annual Contribution*	% Increase Over Previous Year	B Other Contribution (e.g. special assessment, loan)	A + B Total Contribution Each Year to Reserve Fund
2025/26	$420,000	N/A	$0	$420,000
2026/27	$430,500	2.5%	$0	$430,500
2027/28	$441,263	2.5%	$0	$441,263
2028/29	$452,294	2.5%	$0	$452,294
2029/30	$463,601	2.5%	$0	$463,601
2030/31	$475,191	2.5%	$0	$475,191
2031/32	$487,071	2.5%	$0	$487,071
2032/33	$499,248	2.5%	$0	$499,248
2033/34	$511,729	2.5%	$0	$511,729
2034/35	$524,522	2.5%	$0	$524,522
2035/36	$537,636	2.5%	$0	$537,636
2036/37	$551,076	2.5%	$0	$551,076
2037/38	$564,853	2.5%	$0	$564,853
2038/39	$578,975	2.5%	$0	$578,975
2039/40	$593,449	2.5%	$0	$593,449
2040/41	$608,285	2.5%	$0	$608,285
2041/42	$623,492	2.5%	$0	$623,492
2042/43	$639,080	2.5%	$0	$639,080
2043/44	$655,057	2.5%	$0	$655,057
2044/45	$671,433	2.5%	$0	$671,433
2045/46	$688,219	2.5%	$0	$688,219
2046/47	$705,424	2.5%	$0	$705,424
2047/48	$723,060	2.5%	$0	$723,060
2048/49	$741,136	2.5%	$0	$741,136
2049/50	$759,665	2.5%	$0	$759,665
2050/51	$778,657	2.5%	$0	$778,657
2051/52	$798,123	2.5%	$0	$798,123
2052/53	$818,076	2.5%	$0	$818,076
2053/54	$838,528	2.5%	$0	$838,528
2054/55	$859,491	2.5%	$0	$859,491

* The term 'annual contribution' means the amount to be contributed each year to the reserve fund from the monthly common expenses

DIFFERENCES BETWEEN THE RESERVE FUND STUDY AND THE PROPOSED PLAN FOR FUTURE FUNDING OF THE RESERVE FUND

The Plan for Future Funding of the Reserve Fund proposed by the Board differs from the Reserve Fund in the following respects:

NIL